12-1982

Columbia Transportation Center, Columbia, South Carolina

Gary G. Woodward
Clemson University

Columbia Transportation Center

Columbia, South Carolina

A terminal project submitted to the Faculty of the College of Architecture, Clemson University, in partial fulfillment of the requirements for the degree of Master of Architecture.

[redacted]

Gary G. Woodward, Fall 1982

Approved:

[redacted]

Committee Chairman

[redacted]

Committee Member

[redacted]

Committee Member

[redacted]

Committee Member

[redacted]

Head, Dept. of Architectural Studies

[redacted]

Dean, College of Architecture

Columbia Transportation Center

Columbia, South Carolina

A terminal project submitted to the Faculty of the College of Architecture, Clemson University, in partial fulfillment of the requirements for the degree of Master of Architecture.

Gary G. Woodward, Fall 1982

Approved:

Committee Chairman

Committee Member

Committee Member

Committee Member

Head, Dept. of Architectural Studies

Dean, College of Architecture

To my wife, Ann.
My constant source
of strength and support.

Acknowledgments

For their criticism and guidance with the project's development:

Prof. Peter Lee
Prof. Frederick Roth
Prof. Yuji Kishimoto
Prof. Jose Caban
Prof. Lamar Brown

For editing and typing the manuscript:

Ann Woodward
Carol Hood

For help with the project's presentation:

Ann Woodward
Joel Newman
Woody Williams
John Stephenson
Richard Fletcher
Toy Skipper
H. David Ballard

CONTENTS

The Proposal

The purpose of this project is to develop a transportation center for the City of Columbia, South Carolina.

This transportation center would establish an interface between the city's major transportation modes. The center would increase the efficiency of traffic movement to and within the city, would provide a collection point for automobile parking, serve as a transfer area for city bus routes, and shelter both intercity bus and train service within a single facility.

An important aspect of this project will be to determine the optimum location for this transportation center. It will need to be at a point of crossing between movement systems, readily accessible for user convenience, and capable of contributing to the revitalization of the Central City area.

Problem Description

The City of Columbia is presently experiencing a period of renewed activity in the development of its Central City, signaled by completion of the first phase of the Main Street Mall, the Civic Center Plaza, and the beginning of construction on the Palmetto Convention Center.

Area developers and corporations have resumed work on projects designed to expand existing commercial and government facilities in the Central Business District. New projects are also underway that are aimed at consolidating businesses and services throughout South Carolina and the Southeast, to be administered through centralized headquarters based in Columbia.

The resurgence of building activity in Columbia emphasizes its importance as a central location for activity at all levels and its potential as a developable area for growth. Vital to Columbia's central location is an effective transportation system throughout the city and reaching out to the state and region. This system is made up of both air and ground transport. Ground transport consists of private vehicles, intra-city and inter-city bus services, and the AMTRAK train system.

Columbia presently has public and private parking lots and structures within the city to accommodate automobile traffic. While well planned street and highway systems provide ease of access to and within Columbia by

private vehicle, the increased development of the downtown area has resulted in a severe shortage of parking areas. Most people driving to the Central Business District must park at scattered locations beyond the district's perimeter.

The present AMTRAK Station and the two inter-city bus terminals are all at different locations, requiring other means of transportation for travelers to reach their final destination when using those modes of travel.

Local bus service in Columbia provides excellent coverage of the city and is vital to the low income segment of population who depend on the city bus as their primary transportation source. All routes converge on the Central Business District, making that a transfer area when moving from one part of the city to another. This transfer area occurs along a four-block length of commercial street and is inconvenient for the riders especially during inclement weather. The resulting pedestrian congestion is detrimental to businesses located along that street.

The development of a transportation center would be the means for collecting, coordinating, and directing the existing movement systems. From the Center, travelers would have access to a selection of travel modes. Transfers from one to the other would be made, and travel would be readily available here. Retail shops and eating facilities would serve to enhance the use of the transportation center.

The appropriate integration of this proposed transportation center within proximity to the Central Business District of Columbia is important in order to enhance the idea of intermodal transportation to the public,

directly benefiting the existing activity and demographic make-up of the Central City, as well as reinforcing the continuation of existing and projected revitalization of Columbia's Downtown.

Columbia, South Carolina

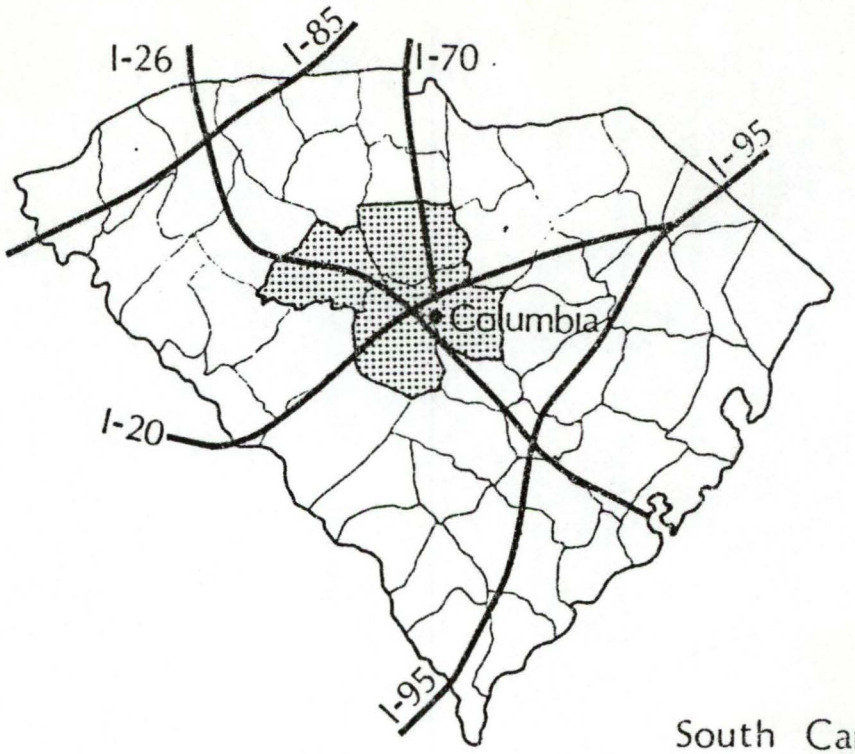
The Setting

Columbia, South Carolina is the state's capitol city. Located in the southeastern region of the United States, it is situated at eighty-one degrees west longitude, thirty-four degrees north latitude. Columbia is located at the geographical center of the state in Richland County on the east bank of the Congaree River. The city lies one-hundred-and-ten miles northwest of the Atlantic coast in what is known as the Sand Hills Region of South Carolina. The region's topography is characterized by irregular rising and falling areas in the northwestern section, to gently rolling land with occasional flat spots southeast toward the coast. The City of Columbia has moderately hilly terrain, with an average altitude of three-hundred-and-thirty feet above mean sea level.

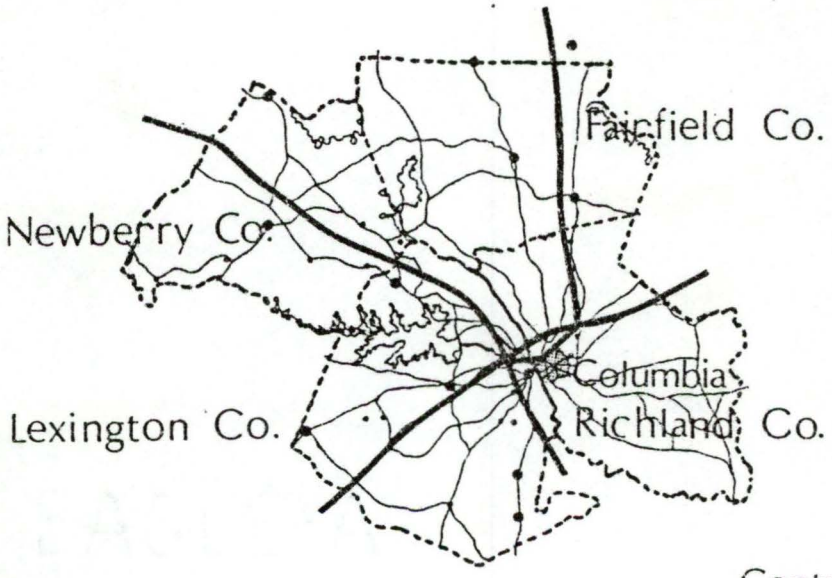
Columbia's location in the center of the state between the Atlantic Ocean and the Appalachian Mountains makes its climate sensitive to the mountain and ocean influences on weather systems moving through the state. The climatic characteristics of the area range from cool to mild winters to hot and humid summers. During the winter, Columbia experiences occasional cold spells caused by colder air siphoning down from the Piedmont Plateau through the Broad and Saluda River valleys. Extreme summer temperatures occur in Columbia and the Sand Hills Region due to its inland distance away from cooling ocean breezes and the stalling effect the mountains have on frontal systems moving toward the coast. Rainfall from March to August is sufficient in keeping the relative humidity between eighty to ninety percent, adding to the discomfort caused by high temperatures.

The population of the City of Columbia is nearly 100,000 and that of the Standard Metropolitan Statistical Area four times that. The Central Midlands Area of Richland, Lexington, Newberry, and Fairfield Counties' population stands at 458,000 and is considered to be the immediate area of influence for Columbia.[1] The population density of the Central Midlands region ranges from very sparse in the outlying rural areas to very dense in Columbia's urban center.

The urban amenities offered by the City of Columbia, complimented by its rural surroundings offer the best of both ways of life to those choosing the area to live in. The diverse make-up of the areas' population has lent a vitality to the region, sustaining the continued development and growth of Columbia and the Central Midlands Region.



South Carolina



Central Midlands

Locator

Background

Geographic centrality was the principal factor which caused Columbia to become a vital activity center for the State of South Carolina. During the early days of colonization, rivers were the natural routes traveled through unexplored territory and thus became the roadways of the early settlements. The area which became Columbia was at the confluence of three natural waterways: the Broad, the Congaree, and the Saluda, which combined to link the foothills of the Appalachian Mountains to the Atlantic Ocean.

The inland region of South Carolina west of Charleston was relatively untouched by white settlers prior to the Eighteenth Century. By 1718 a British expeditionary force established a stockard at the headwaters of the Congaree River, securing the area for settlers from local Indian attacks.

The area which is now Richland County had no settlers until 1755, when the ill-fated town of Saxe-Gothe (later Granby) was established on the west bank of the Congaree River, slightly downstream of present West Columbia. Repeated malaria epidemics in Granby dispersed its settlers, many to higher ground away from the mosquito infested lowlands. As a result, the higher elevation across the river at nearby Taylors Hill, now the City of Columbia, prospered. As the population shift to the east side of the river increased, Granby declined, and by 1837 it had ceased to exist.

Columbia traces its origins back to 1786, when the State General Assembly met in Charleston to establish and charter a seat of government at a geographically centralized location. South Carolina's state capitol had been at Charleston since colonization, but due to the development of large plantations across the state, action was taken to move the government to a location easily accessible from all parts of the state.

During the years between the settlement of the Taylor's Hill area up until the incorporation of the Town of Columbia in 1805, the land east of the Congaree River was agriculturally based. With the establishment of the new State Capitol at Columbia, the area's importance changed from one of agricultural promise to that of a center for legislative, commercial, and transportational activities.

Columbia was one of the earliest planned communities in the country. The town was laid out in a grid pattern comprised of four acre blocks proceeding from the Congaree River eastward. The city's layout came to a two mile square, with the Capitol Building located at its center. Assembly Street divided the square equally north to south, while Gervais Street divided the square east to west, defining four equal sections. Provisions in the State Assembly's charter for the City mandated the city block acreage and specified street widths. Streets were one-hundred feet wide, with two central avenues, Assembly and Sumter Streets, each being one-hundred-fifty feet wide. The streets were of such width to prevent the spread of fire and epidemics and, quite fortuitously, accommodated today's traffic.

To improve water borne traffic through the area, canals were dug along the Broad, Saluda, and Congaree Rivers to bypass the rocky shoals along the length and breadth of the rivers' confluence. The construction of these canals allowed for the easier movement of cotton from South Carolina's upcountry through Columbia to Charleston, where it was exported to the textile mills of New England and Britain. In 1826, the three-mile long Columbia Canal was completed along the east bank of the Congaree River, overcoming a thirty-four foot fall in elevation through five locks. During the next year, forty-five thousand bales of cotton would pass through the canal. However, in the 1830's water borne freight would lose substantial support with the advent of the steam powered locomotive and its railroad.

The nation's first rail line was built in South Carolina for the locomotive "Best Friend of Charleston" in 1830. The railroad rolled along a one-hundred and thirty-six mile line of track built by the South Carolina Canal and Railroad Company from Charleston to Hamburg, near Augusta, Georgia. During the next decade, interest in new canal and road construction waned as the Columbia city fathers sought to link their city with the newly established railroad line. A declaration issued by the committee surveying land for new railroad routes stated that rail service for Columbia "is indispensably necessary, not merely to the prosperity of Columbia, but to save it from decay in ruin".[2] By 1842, a sixty-two mile long rail line had been constructed from Columbia to Branchville. This established a link with the Charleston-Hamburg line at this Branchville junction. That year passenger and freight service began from Columbia to the Port of Charleston and all points between.

By 1848, rail trackage in South Carolina totaled two-hundred and thirty-nine miles and would grow to over 1,000 miles within the next ten years, with Columbia serving as the hub of the rail system. Rail service extended from Columbia to Charleston on the coast and all the way inland to Walhalla in the northwest corner of the state. The increased transportation activity through Columbia and the subsequent growth in commerce and population necessitated the transfer of Columbia's organization from that of a town government to a chartered city in 1854.

With the advent of the Civil War in 1861, Columbia's importance as railroad center for the South made it the ideal location for the Confederate Army Quartermaster, Paymaster, and Printing Bureau. The establishment of these strategic facilities in Columbia, plus the fact that the secessionist movement was begun there, made the city a dear prize for the advancing Union Army in 1865. General William T. Sherman's Army destroyed every mile of railroad track along its march from Atlanta to the sea and its subsequent campaign from the coast to Columbia. This action succeeded in severing much of the region's communication network as well as completely disrupting all railroad service throughout the South.

During the February 17, 1865 occupation of Columbia by Union troops, eighty percent of all residential and commercial buildings were burned to the ground, including the main passenger and freight depots for the Seaboard Coastline and Greenville and South Carolina Railroads.

With the fall of the Confederacy in 1865, and after the cessation of hostilities, a devastated countryside and economy were all that had been left

for the people of the Old Confederacy. The Reconstruction Era of 1865 to 1880 saw slow restoration of normalcy to the economy and transportation systems throughout the South. During the last two decades of the Nineteenth Century, the harnessing and exploitation of electric power would turn things around.

The South's abundant supplies of coal and swift moving rivers gave it the capability to run any kind of generator able to produce electric power. This capability was attractive to industrial concerns searching for cheap, abundant energy sources to operate their modern machinery. Textile mills began relocating from New England to the South, bringing them closer to the cotton supply. Columbia once again found itself the center of activity due to the renewed economic and industrial development.

The necessity of a transportation mode for goods and people through Columbia restored its vital rail systems, and the need to reach beyond the South with its service necessitated increased trackage and improved railroad coverage. By 1900, Columbia was at the hub of nine railroads and the radial point for three others. The city averaged one-hundred-forty-four arrivals and departures a day, seventy-four of them made by passenger trains, establishing Columbia as the unchallenged center of railroad activity in the Southeast.

Life in Columbia was to find itself moving at a faster pace than ever before, stimulated by the increase of new business and industrial activity. This new pace was to bring with it a new type of mobility, brought on by the need to transport Columbia's growing population quickly and efficiently within its city limits.

The Columbia Street Railway was incorporated in 1882, creating a railway system that had four miles of track along city streets, six passenger trolleys, and thirty horses to pull them with. The system averaged eight hundred passengers a day. In 1894 electric service was extended beyond industrial consumption to include public usage, and the streetcar line exchanged its old horse drawn trolleys for new electric powered ones.

Automobiles came onto the Columbia scene in the early 1900's. Interest in personal use of the automobile was slow in catching on, but between 1906 and 1910 the rise in automobile sales in Columbia increased from about three-hundred to one-thousand.

The city streets were wide enough to accommodate the addition of automobiles to the existing trolley and horsedrawn traffic, but rainy weather made the streets difficult to drive since they were not paved. In 1908 sixteen blocks of Main street were surfaced with bricks, inaugurating the development of a hard-surface street system in Columbia.

The increased ridership of citizens throughout the 1920's and 1930's created the need for a more flexible system of urban transportation. The year 1936 saw the last of the electric trolleys as the entire transit system switched over to buses. Improved roads and the development of larger capacity buses provided a more efficient mode of transit for an increasingly mobile public.

Columbia reached its zenith as a center for transportation during the years between 1941 and 1946. The outbreak of World War II in Europe necessitated

the reactivation of Fort Jackson as the training and staging center for troops being sent overseas. The movement of men, their families, and supplies through Columbia kept the railroads in constant use. The concentration of transportational activity created the need for supplemental service, bringing buses into play as an important mode of regional transportation.

Post-war economic recession hit the inflated transportation industry hard, and the rail passenger carriers began to fold one after another, until practically all rail traffic through Columbia was freight. The introduction of the Interstate Highway system, along with the improvement of other roads made car transportation increasingly efficient and convenient. At the same time the nation's air transport industry began building larger capacity planes, competing directly with rail travel. Air travel, which had previously been a limited form of transportation available only to the wealthy, became available to all sectors of the traveling public. In 1965, the Columbia Metropolitan Airport was built, and passenger railroads were soon to be absorbed by AMTRAK through the National Railroad Recovery Act.

The Present

Columbia today stands as testimony to its vitality and importance as the state's center for business and government.

Once again the geographic centrality of Columbia has played an important role in its continued growth. Major financial institutions in the state have based their headquarters in the Central Business District, and national corporations have been locating their regional headquarters in Columbia in order to administer their businesses throughout South Carolina and the Southeast.

In addition to being the center of State Government, Columbia contains numerous federal facilities and is the County Seat of Richland County.

Columbia has seven colleges and universities within its city limits, with the University of South Carolina being the oldest and largest of these. The University of South Carolina provides a wide range of educational, cultural, and athletic activities and events for the people of Columbia.

In a time of economic uncertainty and business slump, Columbia has succeeded in attracting new industries and technologies to locate within its Metropolitan area. Most of the new business concerns locating here deal with advanced technology and look forward to the future, insuring employment opportunities for the years to come.

Today Columbia continues to grow, though unevenly. The areas to the north and northwest of the city show much of that growth, while the inner city lags behind in redeveloping blighted areas and reclaiming abandoned residential sections.

Transportation Study

Systems

Regional Bus Service

Intercity bus service to Columbia is provided by Continental Trailways and Greyhound Bus Lines.

The Greyhound terminal is located in the downtown area, operating from a building it has outgrown, on a site barely large enough to handle the larger new buses Greyhound presently uses on its routes. Site and street size restrictions compromise Greyhound's operating capability at its present location. Its immediate proximity to the S.C.E.&G. bus stops along Sumter Street adds to the congestion of movement, with larger cross-country buses manuvering in and out of stop and go traffic.

The Continental Trailways terminal is on the far eastern fringe of the downtown area, away from many of the activity centers and probably destinations. The terminal building is a renovated car dealership, using old automotive garages and a large parking lot to advantage for bus manuvering and the handling of incoming and outgoing passengers.

Both bus lines provide adequate coverage of the Central Midlands Region of South Carolina. Greyhound and Trailways provide regularly scheduled routes through the towns and communities that make up the region's population centers. Their service does not overlap due to the radial nature of the roads from Columbia and the nature of the bus lines' routing.

Connections with other routes at each terminal link Columbia with the rest of the country through both bus line's nation-wide travel networks.

City Bus Service

The South Carolina Electric and Gas Company (S.C.E.&G.), a South Carolina corporation organized in 1924, owns and operates the city bus service in Columbia. The State Legislature, in an act passed in 1891 consolidated the predecessors of S.C.E.&G. for the purpose of operating an electric street railway, light, and power company. This act underlined certain rights and responsibilities imposed by previous legislation, reinforcing S.C.E.&G.'s position as a public service corporation. S.C.E.&G.'s consolidation was to provide improved services to its public, performing all of the chartered services specificed by the legislative act if it was to retain the benefits provided to the corporation through the charter.[3] By following all of the chartered requirements, certain functions were to be performed that might result in the corporation absorbing financial losses through a particular branch of its services.

S.C.E.&G.'s principle function is the production, marketing, transmission, and sale of electrical energy and natural gas fuel. The franchise to operate a public transportation system for Columbia was made part of its original charter, granting it the right to its principle function. Therefore, the company continues to provide bus service, even though it is not a financially profitable endeavor.[4]

S.C.E.&G. presently operates twenty-eight individual bus routes throughout the Columbia metropolitan area, with three additional routes provided as trial service. Adequate coverage by bus service is considered to be the area within a quarter mile, or two-and-one-half blocks from a bus line. Approximately eighty percent of Columbia's urban population falls within the boundries of that service. In 1981, S.C.E.&G. buses carried a total of 4,970,900 passengers, with an additional 1,202,000 passenger transfers sustaining a four percent increase in ridership per year.

There are fifty-nine buses used in route operation, thirty-eight of which are used at the same time during peak hours of ridership. The average route headway between bus stops Downtown is eight minutes, while other route headways vary from thirty to sixty minutes depending on the route and time of day.

Transfers between routes is best served Downtown along a four block stretch of Sumter Street between Gervais and Taylor Streets. Ninety-five percent of all bus routes pass through this area; however, transfers must be made at the particular bus route's designated stop. Bus fare is twenty cents, with unlimited free transfer from route to route. There is a ten cent charge for passage into three extended service zones, making bus travel very economical for those using it.

Shuttlecock

The University of South Carolina has been operating a shuttle bus service from its campus to designated parking lots around the Downtown area with tremendous success. This park and ride system has helped to alleviate the campus' critical parking shortage and has helped in reducing the University's share of peak automobile traffic volume to the Central Business District by keeping commuter student traffic at the outskirts of the Downtown area. The continued success of the Shuttlecock is a good example for future implementation of shuttle bus service within the city to major activity centers.

Railroads

Three railraods provide freight service to the Columbia Metropolitan area. These are the Seaboard Coastline, Southern, and Columbia/Newberry and Laurens Railroads. Due to the gradual decline in railroad ridership, the only passenger carrier along the rails is AMTRAK, which serves Columbia on the Seaboard Coastline "S Line" right-of-way.

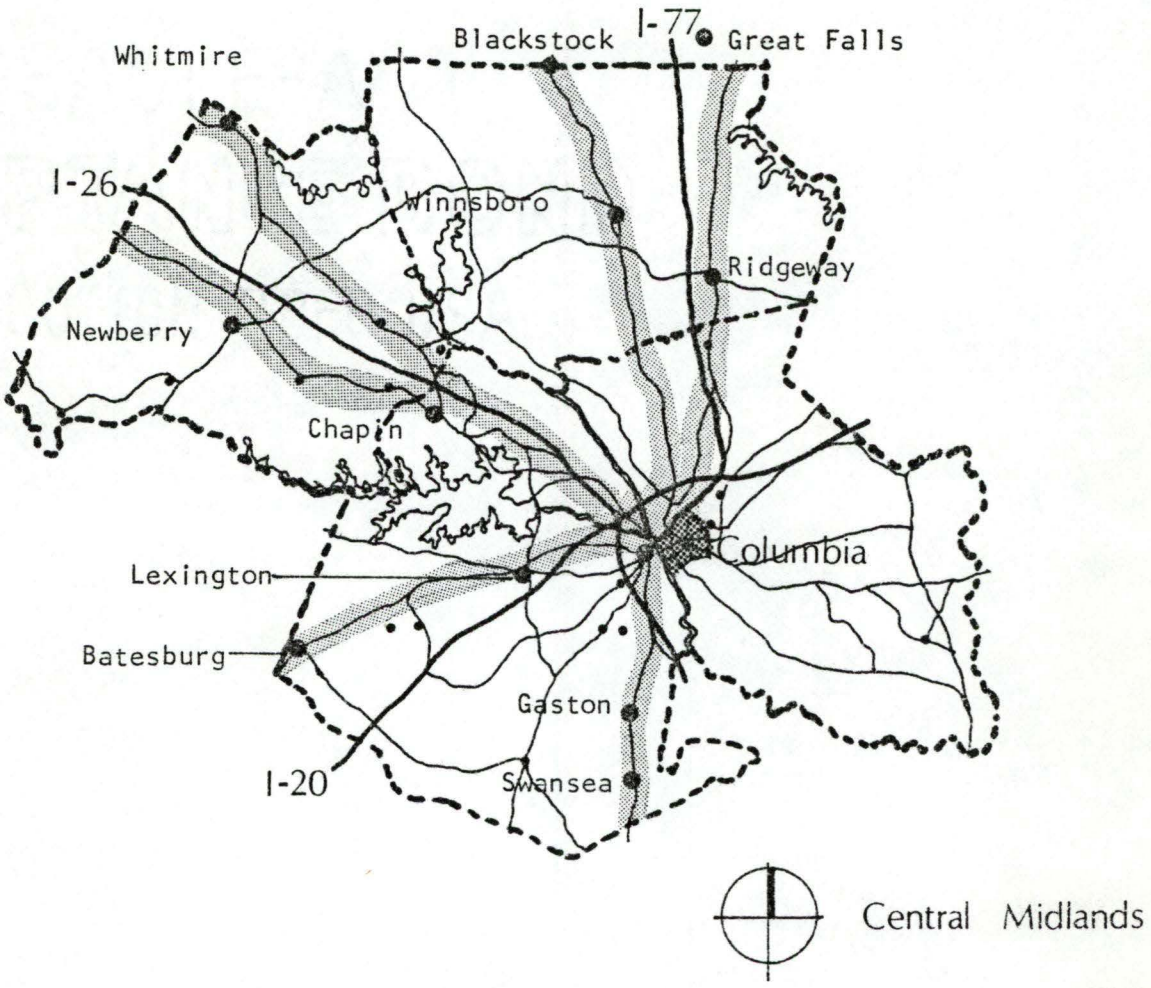
The present AMTRAK passenger station is located west of the Central Business District on Lincoln Street between Gervais and Lady Streets, in a turn of the century building which handles a single train that pulls straight through along trackside.

Air Travel

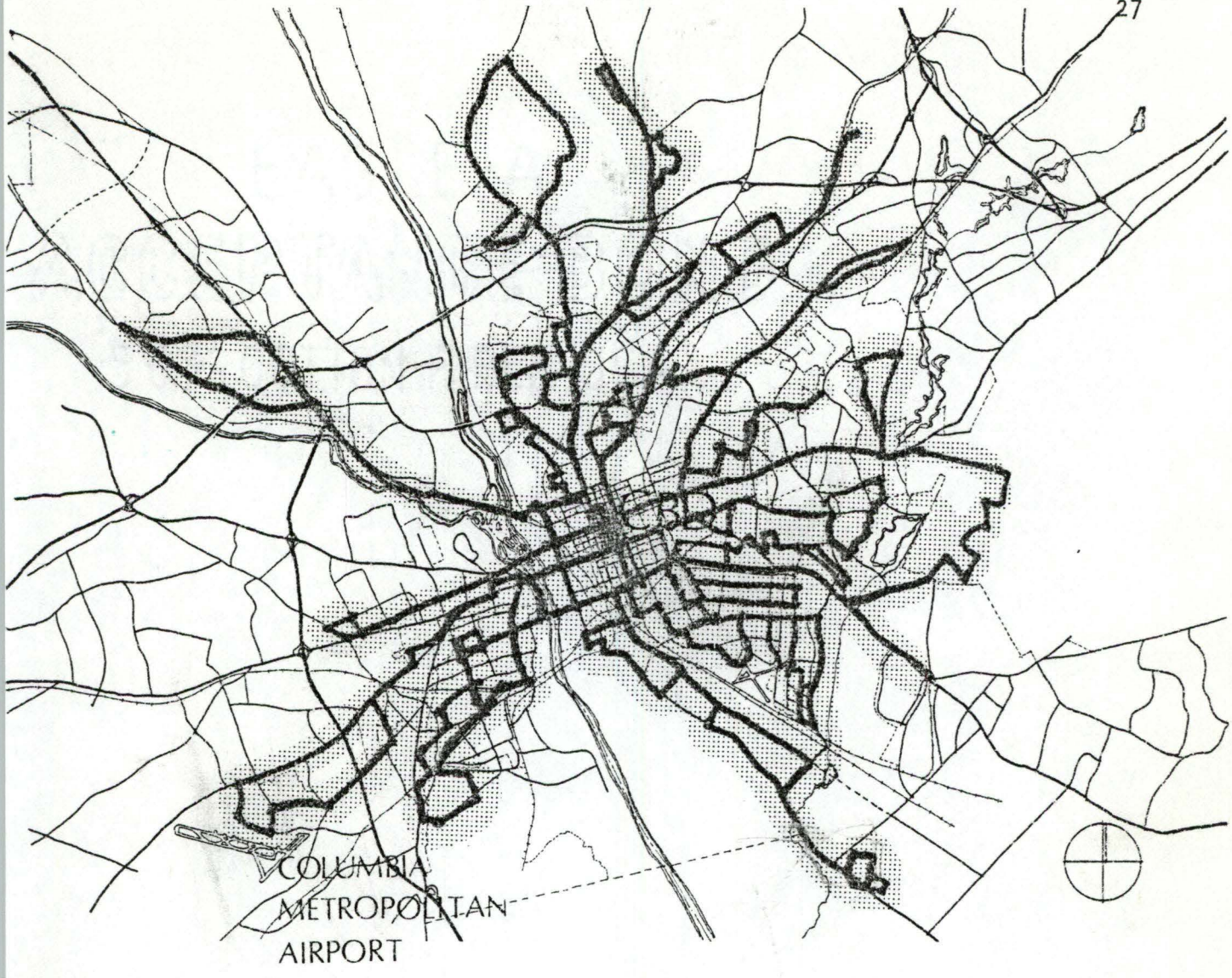
Two major airlines, Delta and Eastern, service the Columbia Metropolitan Area, making connnections to and from all major cities. These airlines operate out of the Columbia Metropolitan Airport, which is five-and-one-half miles west of downtown Columbia. Several smaller commuter airlines, as well as charter services, also operate out of the Metropolitan Airport. General aviation facilities are available for sales and service of private planes at Columbia Metropolitan Airport and Owens Field, which is located two miles southeast of the Downtown area.

Other Commercial Transportation

Columbia is served by three private taxi cab companies which provide service throughout the Metropolitan Area. Checker Cab Company provides limousine service between Columbia Metropolitan Airport and area hotels and businesses.



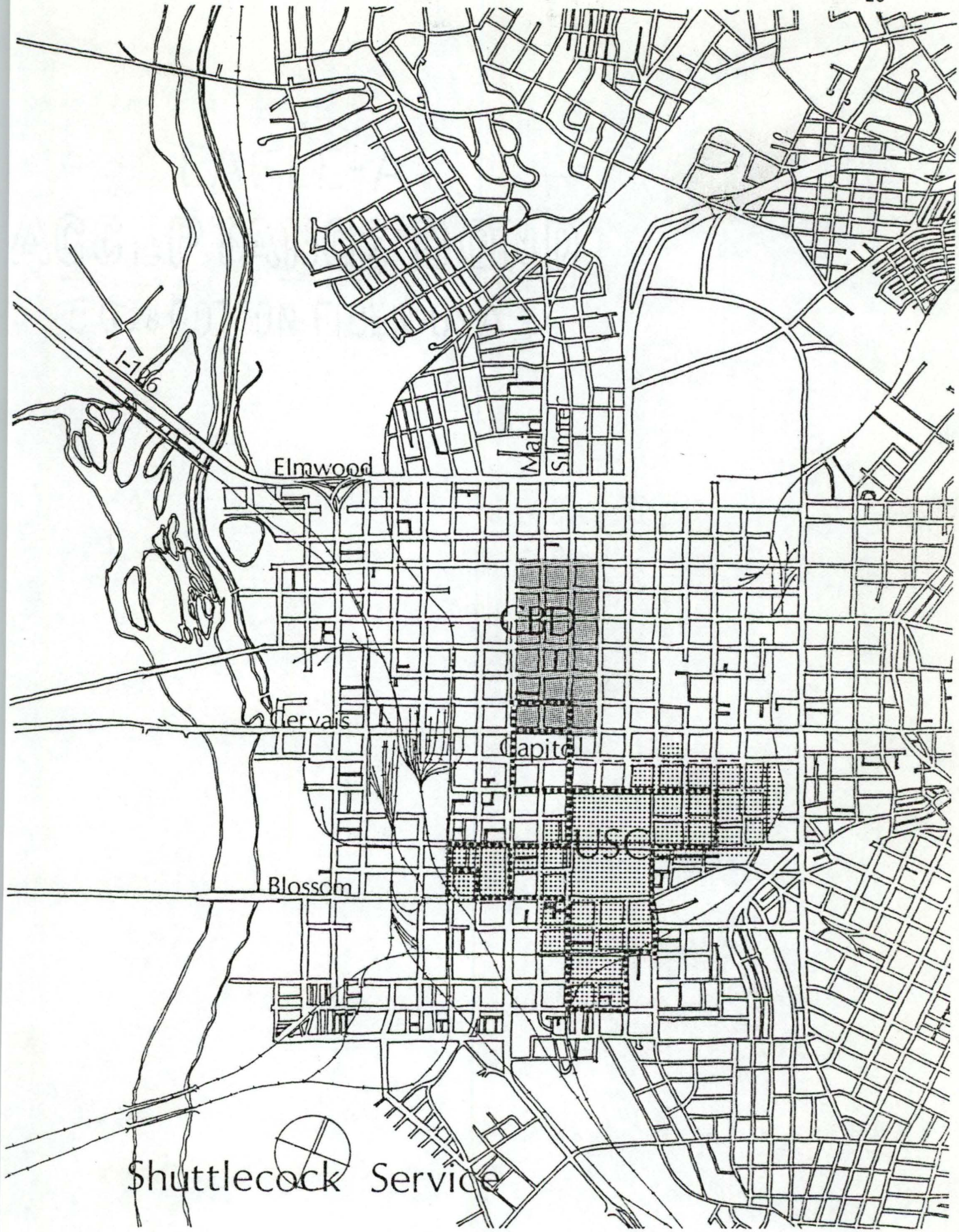
Intercity Bus Service

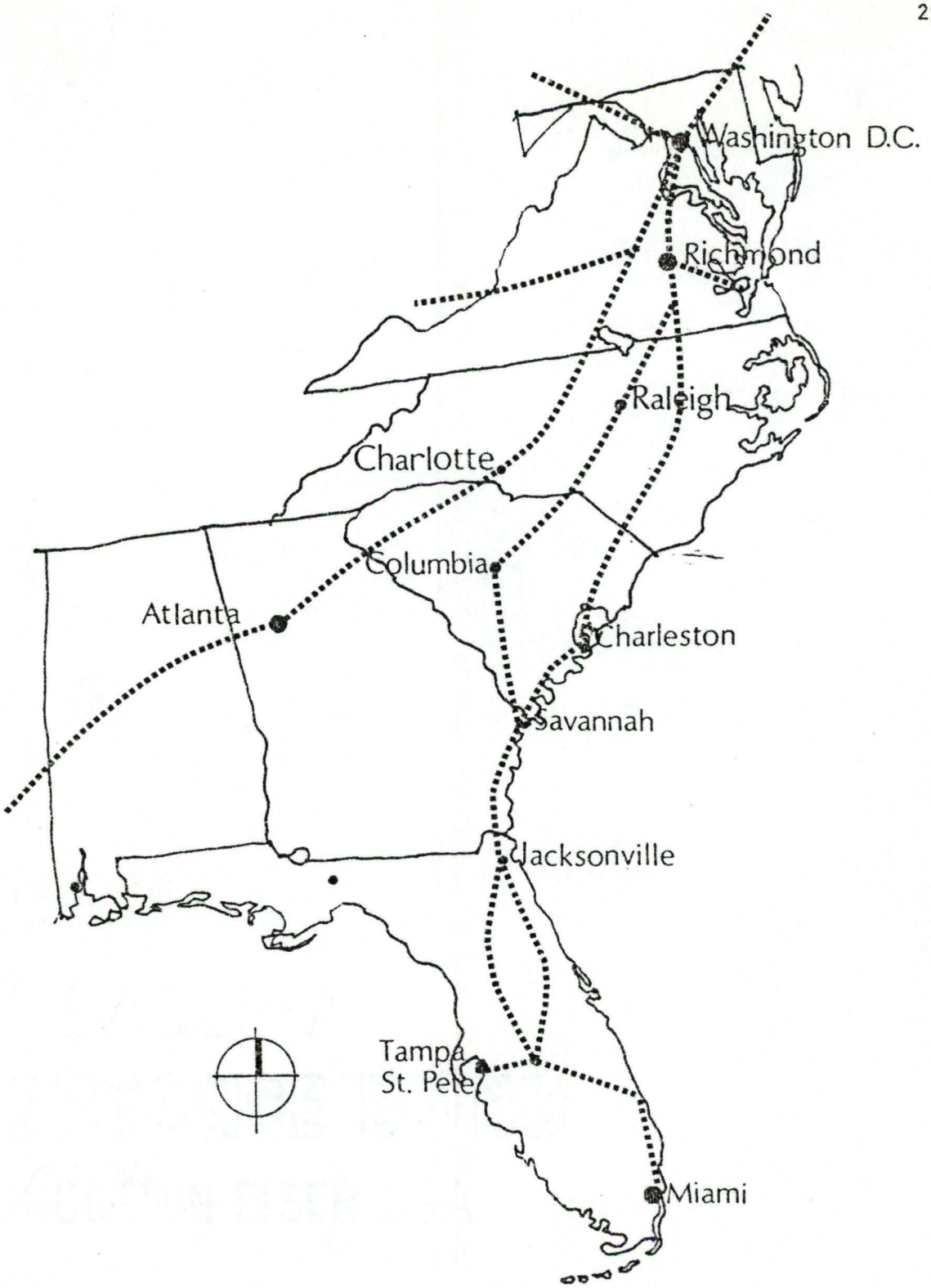


Bus Routes

Area of Service

City Bus Service


I-126
Elmwood
Main
Sumter
CBD
Gervais
Capitol
USC
Blossom
Shuttlecock Service



AMTRAK Service to the Southeast

Networks

The historic events that shaped the development of Columbia's transportation systems have emphasized the importance of the city's relationship to each system and the role played by each transportation mode in the development and reinforcement of their network of operations.

Roads

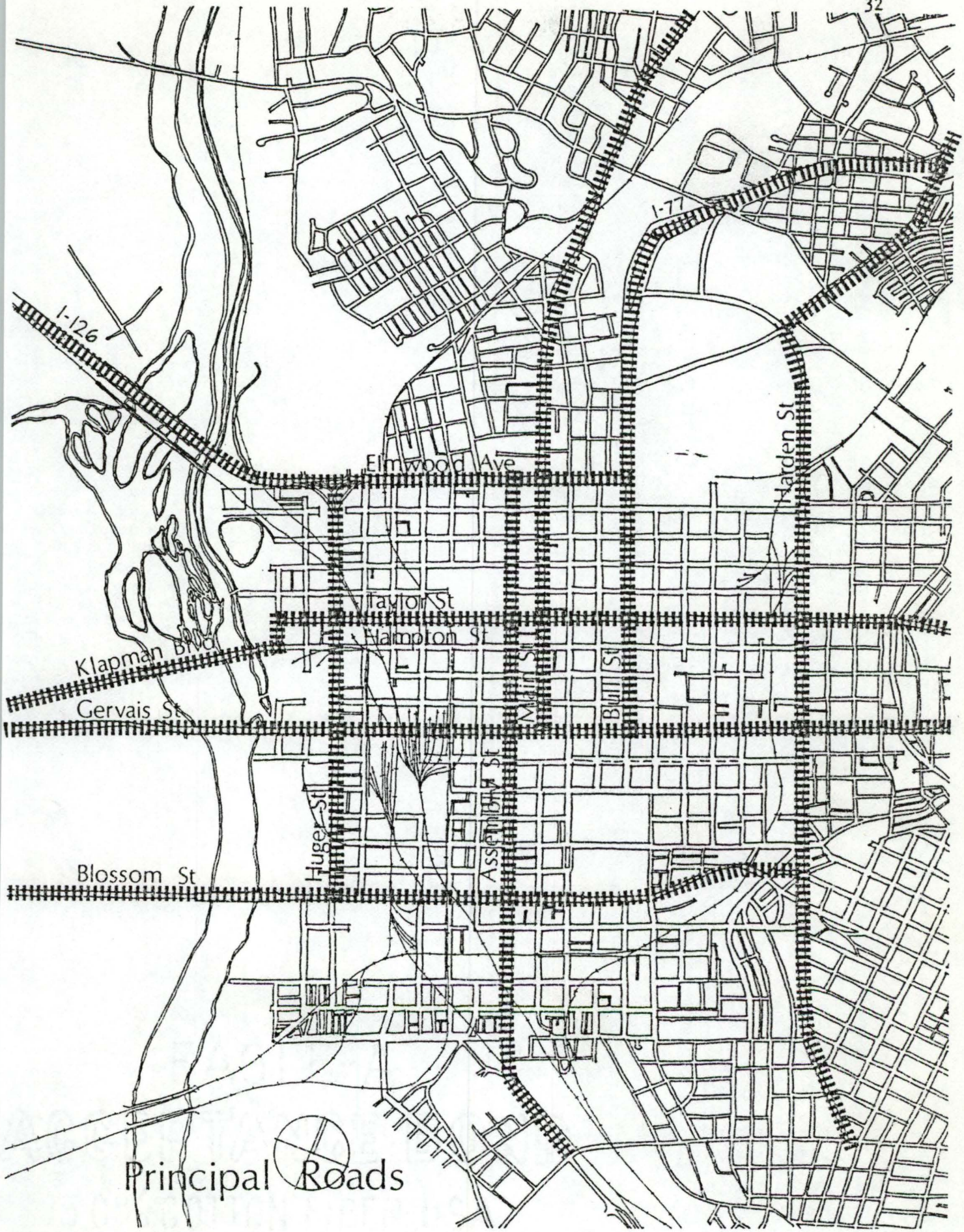
Owing to the legislative plan of 1786, Columbia's Central City street plan is an organized grid of wide streets and boulevards. As Columbia grew in importance as a center for government, finance, and commerce, all roads from the city radiated from the center in an outbound spoke-like pattern toward outlying cities and towns. As the city grew out beyond its original boundries, it expanded along the out-bound roads, developing haphazard edges to the city in contrast to the original city plan.

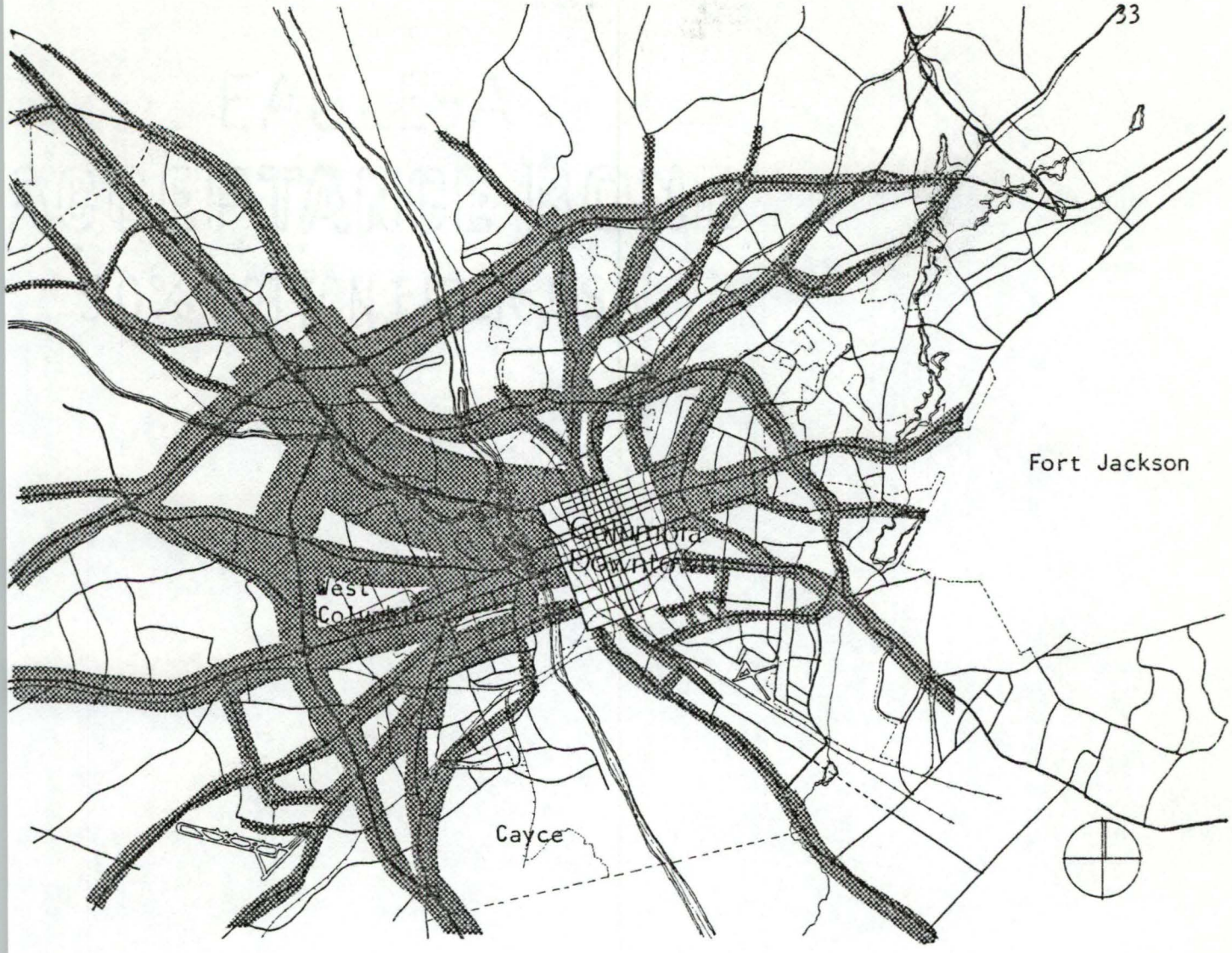
Interstate highways serving the area bypass Columbia, making connections with the city through interchanges between older highways and new access roads. I-26 is the primary north-south interstate highway, and I-20 is the main east-west interstate route. I-126 connects I-20 and I-26 with the north-west end of the Central Business District at Huger and Elmwood Streets. The Northeastern Freeway is presently under construction and will

connect I-77 with the north end of the Central Business District at Bull Street, providing a direct route from Columbia to Charlotte, North Carolina. The road improvement project known as the North-South Corridor will turn Huger Street into a four lane divided roadway linking the proposed Beltline-Freeway through the city. Secondary arterial and collector routes consist of U.S. highways, state and county highways, and a network of urban streets.

Principle east-west traffic routes serving the Central City are Elmwood Avenue, Taylor Street, Gervais Street, Klapman Boulevard, and Blossom Street. Bridge crossings over the Congaree River are made at Klapman Boulevard, Gervais Street, and Blossom Street. Major north-south travel is carried by Huger, Assembly, Main, Bull, and Harden Streets. Radial traffic arterials serving the Central City are Devine Street, Forest Drive, Gervais Street, Knox Abbot Drive, and Two Notch Road. Beltline Boulevard, a partially circumferential route distributes traffic throughout a northwest suburbs and directs movement to the radial roads serving the peripheral areas.

Peak traffic volumes are found to be the heaviest along the I-20/I-26 access to Huger Street and Elwood Avenue and the river crossings of Gervais Street, Blossom Street, and Klapman Boulevard. The hours of peak traffic volume occur between 7:00-9:00 a.m. and 3:00-6:00 p.m.

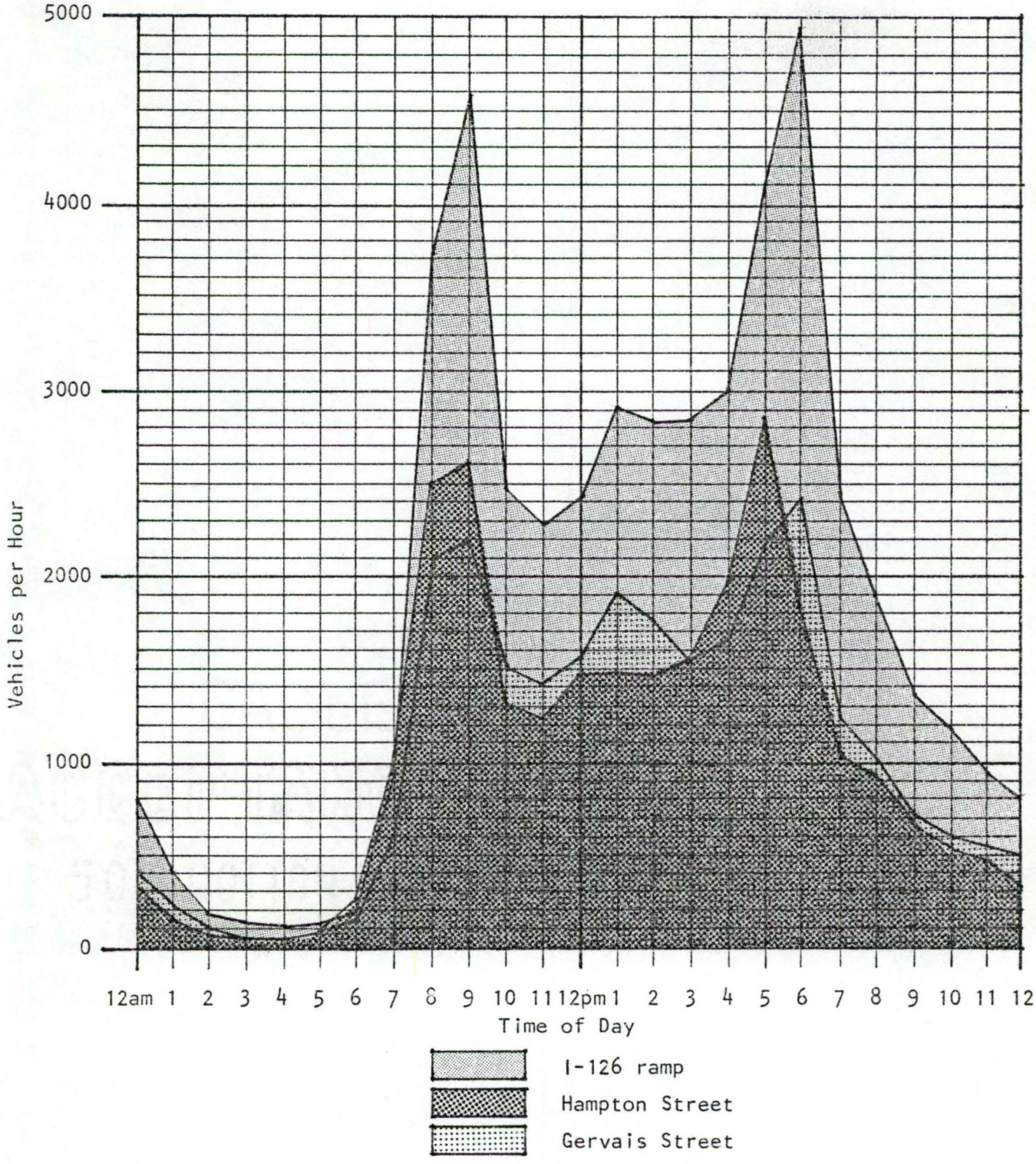

I-126
I-77
Elmwood Ave
Harden St
Taylor St
Hampton St
Klapman Blvd
Gervais St
Main St
Bull St
Huger St
Assembly St
Blossom St
Principal Roads



Traffic volume per 24 hr. period

3000
6000
9000
15,000
45,000
60,000

Traffic Flow



Vehicular Volume

Future Road Projects

The North-South Freeway Corridor is conceived as being the final step in completion of Columbia's freeway system. It will take one of two routes through the city, upon recommendation of an environmental impact study. The proposed route involves the improvement and widening of Huger Street, which would allow for traffic movement at a faster rate between the Beltline-Freeway perimeters. The alternate route proposes the Bull Street Extension to branch off north of the city from S.C. 277, connecting with Gadsden and Lincoln Streets. Lincoln Street will become a one-way northbound road, and Gadsden would become the one-way southbound route to the Beltline-Freeway.

Railroad

All railroad tracks serving Columbia radiate from the city in much the same manner as the road system. Once the railroad tracks reach the city limits, they straighten out and traverse the city exclusively in a north-south direction.

Passenger service runs along the Seaboard Coastline "S Line" track, entering Columbia's city limits at its northcentral boundry and traveling south through town along Lincoln Street. The railroad track runs over several topographic changes, making viaducts and underpasses necessary for trains to pass through town along a reasonable grade.

Railroad Relocation, Consolidation, and Grade Separation

Beginning with the summer of 1982, the City of Columbia is undertaking a project that will most certainly change the physical appearance of the western sector of the Central City area. During Columbia's rise as a railroad center came scores of different railroad companies with their own set of tracks, and the railroad yards and warehouses that resulted crowded the area west of the downtown area all the way to the river.

Today, with only three railroads serving the Columbia area, most of the tracks through town are unused, and the three main lines of track that are used serve warehouses and industry located on the outskirts of the Central City area.

The heaviest traveled vehicular traffic routes into the city must cross the main track lines at grade to reach the Central Business District, creating at times, dangerous situations and backing up traffic for blocks during peak rush hours when freight and passenger trains pass through the city.

The Railroad Relocation, Consolidation, and Grade Separation Project that started during the summer of 1982 is the first part of a two phase project costing $53.5 million. The project consists of consolidating the three main railroad lines to run parallel to one another along a depressed rail corridor, north to south through the west section of the downtown area.

The proposed railway depression will be thirty feet from street level, facilitating free movement over the excavation by traffic bridges at Green,

Gervais, Lady, Hampton, Taylor, Laurel, and Huger Streets. The passage of taffic over the rail lines at grade separation structures will tremendously benefit the efficient flow of traffic to and from the Central Business District.

The isolation of railroad trackage, and the elimination of all the other unused portions of existing railroad track will aid in the revitalization and expansion of the downtown area west to the river, making previously isolated parcels of land accessible to development.

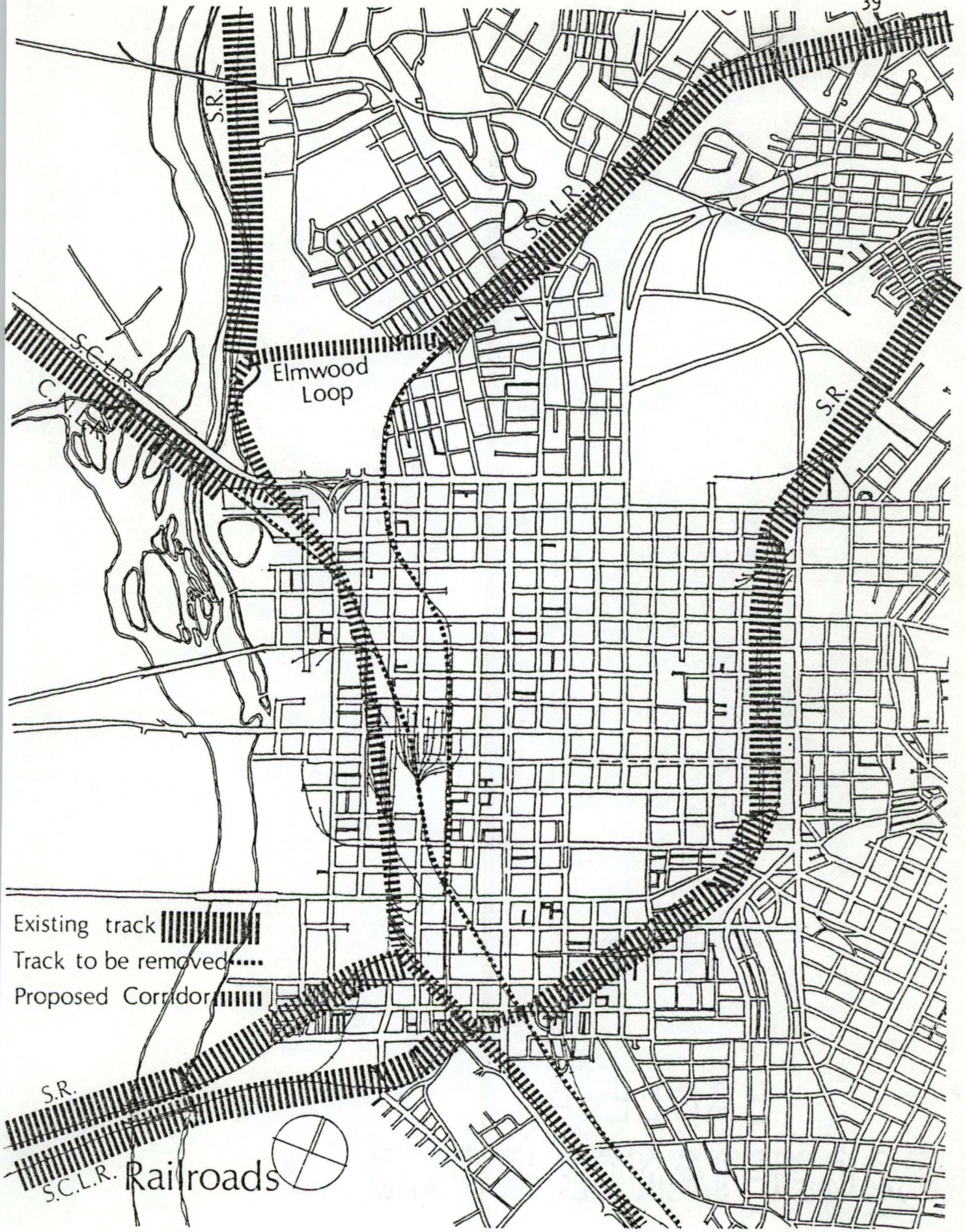
The Elmwood Loop

With the railroad relocation, consolidation, and grade separation will come the elimination of several of the existing feeder routes which are not main line tracks but are still used by the operating railroads. One of the tracks to be eliminated is the Seaboard Coastline's "S Line" which cuts through town along Lincoln Street and is used by AMTRAK for passenger service to Columbia. The entire trackline will be removed, requiring the AMTRAK passenger station to find a new location along the relocated Seaboard Coastline.

The relocation of the "S Line" so it will align with the newly created rail corridor will require a link from the northeast where the route approaches the city to the northwest corner of Columbia where the main lines converge as they enter the city.

To avoid crossing any main traffic arteries approaching the city, it has been proposed in Phase II of the Railroad Relocation, Consolidation, and Grade Separation Project to skirt along the perimeter of the city outside the boundry of Elmwood Cemetary with a double set of railroad tracks, creating a loop from the northeast around the city to the main line of tracks along the river.

It is felt that this project will be under construction in five years and that the AMTRAK passenger facility may stay close to the downtown area along the North-South Rail Corridor due to the maintenance of the relocated Seaboard Coastline "S Line".


S.R.
S.C.L.R.
S.C.L.R.
Elmwood
Loop
S.R.
S.R.
Existing track
Track to be removed
Proposed Corridor
S.R.
S.C.L.R.
Railroads

A Center

The Doxiadis Master Plan of 1969 for Columbia proposed several new types of transportation systems, operating through a consolidated transportation center.

Subways, light rail commuter vehicles, and people movers were all part of the far sighted transportation plan. Twelve years after their proposal, these modes of transportation are considered by transportation and planning authorities as not yet being economically feasible and thus not realizable in the near future.

With economic technological, political, and physical plant factors taken into consideration, authorities feel that the ground transportation systems now in use throughout Columbia will, with alterations and modernization, remain as the city's principle movement systems well into the Twenty-first Century.

Proposal

Columbia is fortunate to have a well developed city bus system, as well as inter-city bus service provided by Greyhound and Continental Trailways. Passenger rail service is provided by AMTRAK, and Columbia Metropolitan Airport serves the city with intercontinental air travel.

The effectiveness of the various modes of mass transportation offered in Columbia is compromised by the lack of coordination between them. This seriously effects their ability to provide an alternative to the private auto as a means of reaching specific destinations.

In order to provide the most effective transportation service for Columbia, all systems must be coordinated within the constraints of existing conditions and guidelines of future growth. This logically leads to the development of a consolidated transportation center.

The transportation center would bring the terminal facilities of AMTRAK, Greyhound Bus Lines, and Continental Trailways under one roof. The Center would also provide areas for city bus transfers, taxi stands, airport limousine service, shuttle bus access, rental car service, and automobile parking.

The transportation center would provide traveler oriented amenities such as waiting areas, restaurants, and other eating facilities, information service, and retail facilities all within a secure, controlled environment.

Central to all of the transportation services within the facility would be an open passenger concourse, which would provide orientation and direction from one mode to another and relate the Center to its neighborhood context.

The Central City

Land Use

The physical make-up of Columbia is as diverse as all cities of its size in the United States. Its metropolitan area contains the city proper in addition to the suburbs and smaller towns caught up by Columbia's expansion.

Serving the residential areas that ring the Central City, there are three major shopping malls on the outskirts of Columbia where a large share of the commercial activity takes place. Businesses are scattered throughout commercial "strips" that appear along the main traffic arterials radiating outward from the Central City area. This dispersal of activity would tend to drain a downtown area of its vitality, but in the case of Columbia, it has not. The city's position as the governmental, financial, judicial, educational, and business center for South Carolina has reinforced the importance of Columbia's downtown area as a center for major activity in this region of the Southeast.

The Central Business District, which is the location for much of the activity in the downtown area, is an area defined by Laurel Street to the north, Sumter Street to the east, Gervais Street to the south, and Assembly Street to the west. This area is the center for financial institutions and businesses, whose headquarters there administer the activity of branches throughout the Southeast and South Carolina. A high density of commercial and retail establishments along Main and Sumter Streets attract shoppers

to the downtown area. The City and County Governments, as well as the State Supreme Court and County Court buildings, are within the Central Business District.

Beyond the Central Business District is the downtown area which occupies what is left of the original Columbia city limits. This district is defined by the area between Elmwood Avenue on the north, Harden Street on the east, Blossom Street on the south, and the Congaree River to the west. The State Capitol complex is located in this area on Gervais Street directly south of the Central Business District, and immediately adjoining the Capitol Complex is the University of South Carolina campus. Other large activity generators are the Baptist Hospital Complex, South Carolina State Hospital Facility, the Strom Thurmond Federal Office Building, and the U.S. Post Office.

All of the intercity bus stations are in the downtown area. The Greyhound Depot is at Blanding and Sumter Streets, and the Continental Trailways Depot is located at Gervais and Harden Streets. The AMTRAK Station is also in the downtown area, located on Lincoln Street between Lady and Gervais Streets.

The South Carolina Central Correctional Institution is located on the west end of downtown on the Congaree River, and the area between the river and Lincoln Street is an old industrial and warehouse district. Many of the mills and warehouses in this area are abandoned, some in disrepair, others being bought and renovated to facilitate new uses, with some light industrial

activity remaining in the district. This area is a vacuum between the residential and commercial activity across the river in West Columbia and the Central Business District of Columbia.

The residential make-up of Columbia's downtown area is diverse mix of buildings and people. Run-down mill housing is clustered around the old mills along the river. Grand old mansions that survived Sherman's occupation during the Civil War stand to the north and east of the Central Business District. Well kept old merchant's houses and nicely renovated single family houses and duplexes are scattered throughout the downtown area and adjacent neighborhoods. Ill-kept federal housing units are clustered to the east, and fashionable apartment towers are interspersed throughout revitalized neighborhoods.

The wide range of services provided throughout the downtown area, as well as the more than 82,000 jobs provided within the area, maintain Downtown Columbia as an attractive place to live for its 18,000 residents.

Activities

Columbia's central geographic location has established it as the administrative center for government, business, education, and various institutional activities for the State of South Carolina. Columbia's accessibility to other parts of the state has reinforced the placement of these activities in the city, and the resultant expediency of service to various areas in need throughout the state emphasizes the need for the central location of such facilities.

Federal Government

The Federal Government operates from three buildings in the downtown area, which are the Strom Thurmond Federal Office Building, the Veterans Administration Building, and the Federal District Court House. The Strom Thurmond Building houses federal agencies and has office space for elected officials, special committees, federal marshalls, spaces for hearing rooms, and extra courtrooms to supplement the needs of the Federal Court House. The Federal District Court House provides facilities for federal court trials and hearings, as well as detention areas for prisoner transfer and holding. The Veterans Administration building is the control center for veteran's benefits and services throughout South Carolina and runs the Veterans Administration Hospital operation on Columbia's west side.

State Government

The South Carolina State Government is located at the foot of Main Street, downtown between Gervais Street and Pendleton Street. Here stands the State Capitol Building where both legislative branches of the government are housed. On the State Capitol grounds are several state office buildings which house the state agencies in charge of revenue collecting, dispersal, budgeting, auditing, and record keeping. Other service, informational, and enforcement agencies associated with the various branches of government also occupy space in the State Office Complex. The State Archives Building, which acts as a repository for historical documents, artifacts, and all other paperwork the State Government turns out, is also located on the Capitol Complex grounds. The State Supreme Court is located across Gervais Street from the State Capitol.

City and County Government

The City and County Governments for Columbia and Richland Counties are scattered along Laurel Street from Assembly Street east to Harden Street. The Civic Center Plaza between Laurel and Blanding Streets and Assembly and Main Streets has the greatest concentration of City Government offices, as well as having the County Court House on its grounds. The Richland County Government offices are at Harden and Hampton Streets, along with the house supervisor's offices, tax assessors, social services, and other county agency offices.

Institutions

Columbia is the home for several state, local, and private institutions ranging from prisons to museums.

The Central Correctional Institute is the state's maximum security prison and is located on the river at the end of Taylor Street. The South Carolina State Hospital is a large psychiatric facility for the treatment, convalescent care, and boarding of mentally disturbed and handicapped persons. Richland County Hospital, Baptist Memorial Hospital, and Columbia Hospital provide the city with modern health care and serve the Central Midlands as a regional medical center. These facilities also act as medical laboratories for area nursing schools, medical colleges, and provide for medical research by resident doctors and the University of South Carolina's medical school.

The Richland County Library is the main public repository for the lending and collection of books for the area, second only to the University of South Carolina. The Columbia Art Museum is the main art gallery in the city; however, several of the area colleges and universities have admirable art collections which add to the cultural offerings of the city.

Commercial and Business

As described earlier, the Central Business District of Columbia is the center of much corporate businesses in South Carolina. Six major banks

and six major corporations have their headquarters or regional offices in this area, with many other smaller businesses and corporations also located there. Although corporate businesses are the primary activity in the downtown area, the Central City enjoys a strong retail market with three major department stores and dozens of specialty stores located along Main Street.

Educational

Columbia has seven institutions of higher learning: the University of South Carolina, Columbia College, Allen University, Benedict College, Columbia Junior College, Columbia Bible College, Lutheran Theological Seminary, and Midlands Technical College.

Part of the University of South Carolina's facility is the Carolina Colisuem, where the U.S.C. Gamecocks play basketball and the Williams Bryce Stadium where the football team plays. The Coliseum is also available for rent and is used for large-scale concerts, shows, conventions, expositions, tradeshows, and other big events.

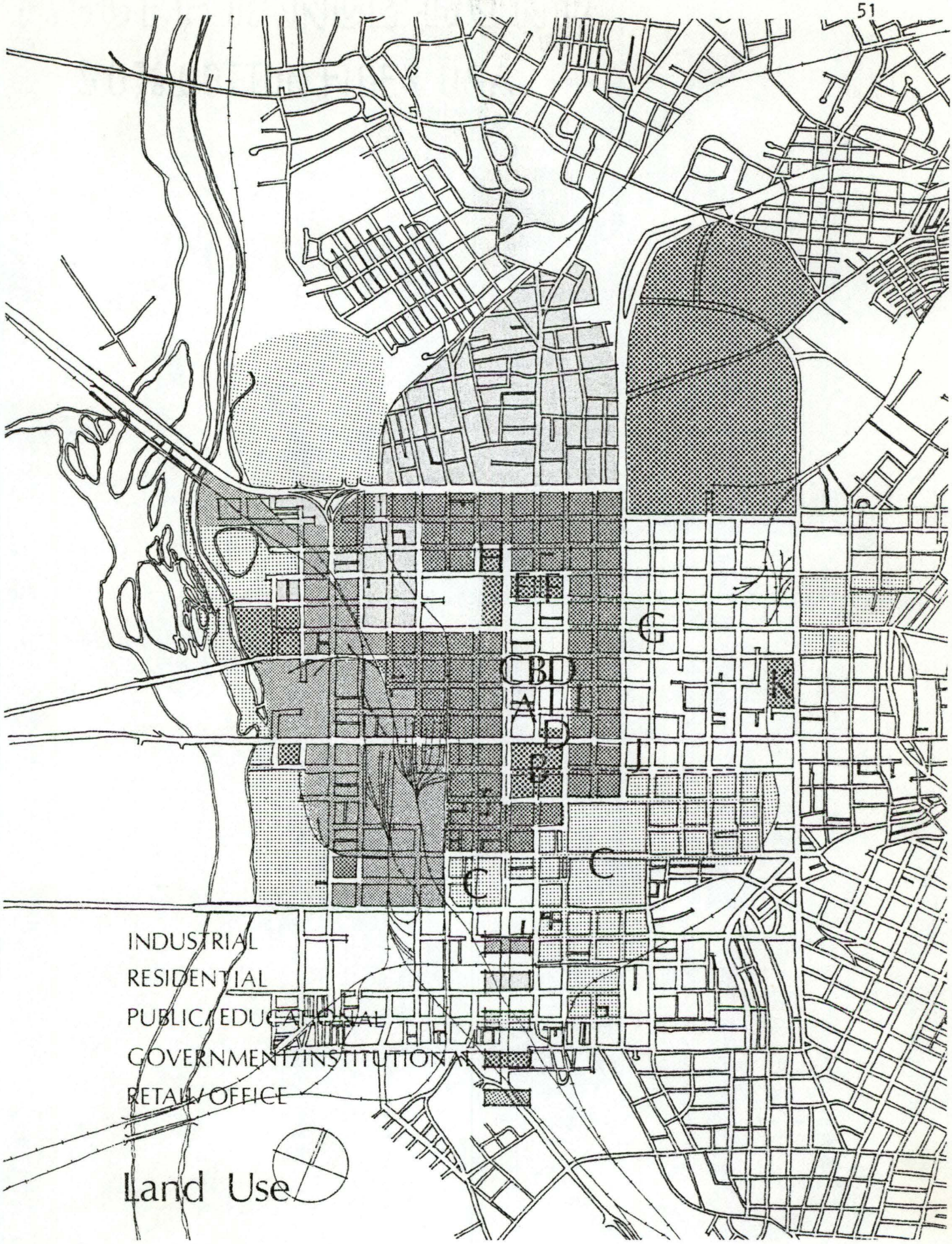
Entertainment

Downtown Columbia has a diverse range of entertainment, among them are several very fine restaurants. There are also specialty restaurants catering to ethnic and gourmet tastes, as well as short order establishments

and sandwich shops very popular with business people during lunch. There are four movie theaters downtown, as well as several nightclubs, some of which occupy renovated warehouses to the west of the Central Business District.

Existing Activity Generators

A. Banking and Business Headquarters
B. South Carolina State Capital and Government Complex
C. University of South Carolina Campus and Coliseum
D. State Supreme Court
E. Civic Judicial Center
F. Columbia City Government
G. Baptist Hospital
H. Strom Thurmond Federal Office Building
I. Retail and Entertainment Establishments
J. Columbia Art Museum
K. Richland County Courthouse and Offices
L. Richland County Library


CBD
INDUSTRIAL
RESIDENTIAL
PUBLIC/EDUCATIONAL
GOVERNMENT/INSTITUTIONAL
RETAIL/OFFICE

Land Use

Future Development

Of the many proposals for development and revitalization of the Columbia Downtown area made in the 1969 Doxiadis Master Plan for the City of Columbia, several are on the verge of being realized as actual projects.

The land along the east bank of the Congaree River from Elmwood Street to Blossom Street is in the process of development as a parkway. The Riverfront Park, as it will be known, will be the first step in revitalizing the western sector of the downtown area. It will provide a natural park setting for public gathering, recreation, and enjoyment, while creating an open urban space in which new development and activity may relate.

The Railroad Relocation, Consolidation, and Grade Separation Project will provide more open space through the removal of tracks and open up the western area of downtown to more closely relate to the Central Business District. It has been proposed that the old Seaboard Coastline rail yard to the west of the Post Office also be developed as an urban park. "The Seaboard Park" would be directly linked to residential sections of the city and the Congaree Vista Parkway by green corridors which would consist of landscaped pedestrain areas developed along reclaimed railroad right-of-ways and abandoned industrial sites.

Mount Vernon Mills has been targeted as being renovated to house the new State Historical Museum, which will add to the activity along the Congaree Vista. Along with the State Historical Museum is the possible development of a Visitor's Center, which would round out the park's services.

The potential amenity of parks and greenways has sidetracked the western sector's proposed development. Although the area between the river and the Central Business District was seen as being revived with light manufacturing activity and commercial business, the recent trend has been toward a mixed use development of this region. This potentially diverse composition would make a vital addition to the Central Business District and contribute to the blend of downtown activity.

Additional commercial development may expand the Central Business District one block west of Assembly Street to Park Street, with business and retail interest examining the possibility of developing the south side of Gervais Street leading into the Central Business District as well. The current construction of the Palmetto Center, a convention center, office and hotel facility, exemplifies the growth of the Central Business District. A new IBM headquarters on Main and Washington Streets and three other new office buildings in addition to a number of expansion and renovation projects indicate the growth potential of the Central City.

The University of South Carolina continues to expand, with its most ambitious project being the establishment of a Performing Arts Center either on campus or as part of a Civic Cultural Complex.

Columbia's Metropolitan area is predicted to expand outward with a dramatic increase in population. This will be due in part to new industries locating to the Columbia area and the completion of the entire freeway system. Nonetheless, the Central Business District will still provide more than twice the number of jobs than that offered by any other section in the Metropolitan District, attracting an even larger propositional volume of travelers arriving and departing from the downtown area.

Future Activity Generators

A. Palmetto Center

B. Increased Business Location to the Central Business District

C. State Historical Museum

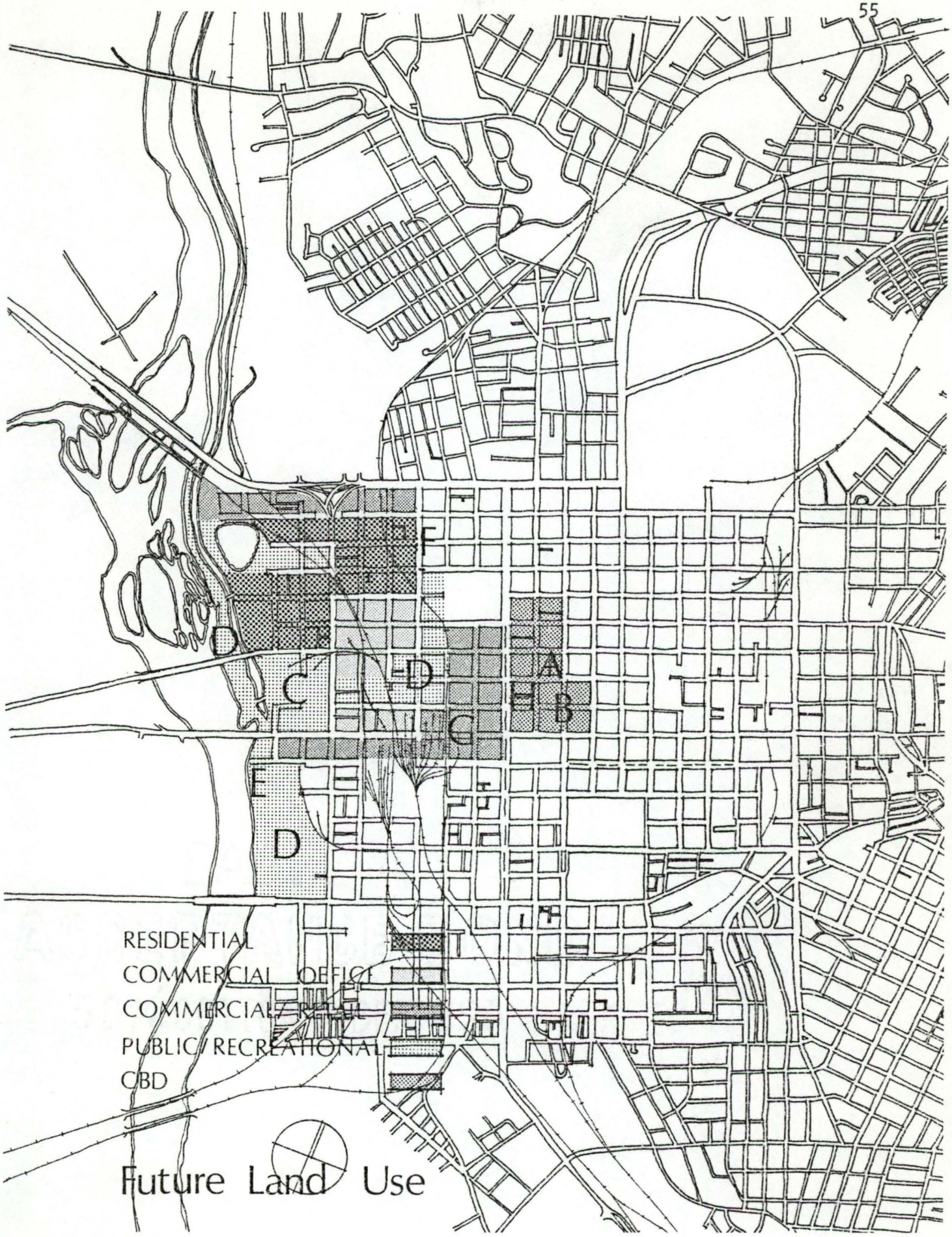
D. Congaree Vista and Seaboard Park

E. Performing Arts Center

F. New residential Activity

G. Expanded Commercial/Retail Enterprises in the West End

H. IBM Headquarters



Future Land Use

Center Location

Selection Criteria

The effectiveness of a transportation center in the City of Columbia is highly dependent upon its location within the urban center. It must relate conveniently to major activity generators. Its location at a site where movement systems serving the city converge and interface is vital.

In order to select an appropriate site, criteria necessary for the effective operation of the transportation center have been established to weigh the merits of potential locations. These criteria are as follows:

A. Rail Access

The site should be served by an existing railroad right-of-way or have access to land which can link the site by rail spur to an existing right-of-way. Not only will this provide AMTRAK passenger service to the Center but will allow for additional implementation of light rail commuter transportation should such a system be considered in the future. Since Columbia is currently served by commerical railroad linking the city with a national transportation network, the inclusion of rail service within the transportation facility is vital to the intermodal interfacing of movement systems through the city.

B. Access To Principal Traffic Arterial Routes

The transportation center site should have good access to expressways and/or primary arterial streets. Direct access to the Center from primary approach routes serving the city will make heavy traffic through town manageable for purposes of direction, information, and the interfacing of traveler movement between available transit modes. Direct access to principal traffic routes would increase the ease of movement to and from the Center, minimizing traffic problems created through circuitous approaches using smaller streets.

C. Relationship to Local Transit

The site should be within the bounds of the area served by S.C.E.&G. bus routes operating throughout the city and the Central Business District. The transportation center should be near the convergence of several bus routes or at a location convenient enough to warrant minimal rerouting of existing buses serving the area. In order to provide convenient transfer opportunities between the maximum number of bus routes, accessibility of taxi service and limousine service to the site along well traveled routes is also important to the location, as is the availability of ample space for such units to wait for fares.

D. Relationship to Activity Generators

The site should have close physical proximity to the principle activities and attractions within the Central City area. Convenience with respect to the arrival, transfer, and dispersal modes serving

the activities, as well as the short duration of trip time between destinations will promote the Center's use as a base for travel operations.

E. Visibility

The site should be located in an area that would provide a vantage point for inbound and outbound travelers relative to destinations, primary routes of travel, and prominant landmarks. A specific, identifiable sequence of movement to and from the transportation center will provide the necessary orientation for effective integration of traveler movement within the context of urban activity.

F. Impact/Relationship to Future Development

The site should relate to the immediate character and make-up of its surroundings, reinforcing the existing activities and enhancing the neighborhood's spatial and textural make-up. The Center's location should provide an amenity to that area, positively reinforcing anticipated growth and development of the surrounding neighborhoods.

G. Availability of Land

The site preferably should be in need of development and not contain activities that would require relocation. Existing buildings on site should be such as to allow their demolition, or if in good condition be of complimentary nature to the resulting transportation center scheme. The site should be available for purchase.

Criteria Importance: A Weighing Strategy

With the identification and development of site selection criteria, each criteria was weighed against the others in order to establish its level of importance in the final analysis for the transportation center's location.

Need satisfaction of each criteria was considered in determining what factors were vital to the primary operational functioning of the Center relative to its location. Identification of the primary elements and ranking them above the secondary elements in importance gave each criteria a weight factor in proportion to that established by the sum total of all site analysis criteria.

The resulting weightfactors give particular criteria priority over others in the evaluation of alternative site qualifications. This approach to site evaluation is an attempt to objectively analyze all the alternatives through a set of graduated criteria, rather than subjectively assessing the value of each criteria on the basis of a yes/no checklist.

Criteria Weighing Matrix

		A	B	C	D	E	F	G	RANK	WEIGHT FACTOR
A	Rail access	-	2	2	2	2	2	2	12	26.8%
B	Access to principle traffic arterials	0	-	2	2	1	2	2	9	21.0%
C	Relationship to local transit	0	0	-	1	1	1	2	5	11.9%
D	Relationship to activity generators	0	0	1	-	1	1	2	5	11.9%
E	Visibility	0	1	1	1	-	1	2	6	14.0%
F	Impact/relationship to future development	0	0	1	1	1	-	2	5	11.9%
G	Availability of land	0	0	0	0	0	0	-	0	.7%

2 represents ". . . is more important than . . ."
1 represents ". . . is as important than . . ."
0 represents ". . . is not as important than . . ."

Alternate Sites

Site Selection and Analysis

Three sites were selected for consideration as alternative locations for the transportation center. They were:

1. The block bound by Gervais/Lady/Gadsden/Pulaski Streets.
2. The block bound by Taylor/Wayne/Hampton Streets.
3. The block bound by River Drive/Beaufort/Barret Streets.

Each site was examined for characteristics responsive to the established selection criteria. The sites were then evaluated according to the guidelines set forth by the preceding criteria.

Gervais/Lady/Gadsden/Pulaski Street Area

This two block area lies three blocks west of the Central Business District. Gervais Street is one of the principle east-west traffic arterials serving the Central City, with access provided to I-20 and I-26 by its junction with Huger Street one block to the west. This site is located near the proposed Doxiadis Master Plan Transportation Center site proposal of 1972.

Rail Access: Excellent

The proposed rail corridor bisects the site north to south along a thirty foot depression at railroad grade from street level. The size

of the site provides for a possible switching track for the layover of trains when needed during times of heavy traffic. The Seaboard Coastline track will run along the rail corridor, insuring probable passenger train access to the site by AMTRAK's service along that line.

Access to Principle Traffic Arterials: Excellent

Gervais Street handles a large volume of east-west traffic to and from the Central City, as well as serving as the principle through-town route from the eastern suburbs to West Columbia and Lexington. Access to I-20 and I-26 is provided by its intersection with Huger Street, one block to the west of the site. Gervais Street is six lanes wide with turning lanes. It can handle large bus traffic as well as peak hour traffic volumes efficiently. Pulaski, Gadsden, and Lady Streets provide adequate secondary street supplementation to the site's access with Lady Street also intersecting Huger Street.

Relationship to Local Transit: Good

Several city bus routes pass the site along Gervais Street; however, the heaviest concentration of bus routes in the city lies five blocks to the east at the intersection of Gervais and Sumter Streets. The site location on Gervais Street makes the direct relationship to the bulk of the other routes realizable. This is accomplished by reasonably modifying those bus routes serving the Central City, utilizing shuttle buses or new routes in a loop configuration from the Sumter Street intersection to the site.

Relationship to Activity Generators: Good

The site is midway between the Central Business District, the State Capitol Complex, the Civic Center Plaza, and the University of South Carolina Campus. Access is achieved by Gervais Street's connection with Assembly, Main, and Sumter Streets. The site being three to five blocks west of the activity areas make it possible for reasonable walking distance to some destinations but not others.

Visibility: Excellent

Gervais Street provides strong direct visual access to the State Capitol Building as well as a fine sequential relationship with buildings along the street to and from the downtown area.

Availability of Land: Good

The Seaboard Coastline Railroad owns part of the site and would most likely be a partner in the operation of the transportation center because of its option on air rights over the rail corridor. Two of the businesses operating along the east section of the site would lose the use of their railroad spurs due to the rail consolidation and grade separation and would have to relocate to remain in operation, making the entire site available for acquisition.

Impact/Relationship to Future Development: Excellent

The proposed Greenbelt Parkway linking the Seaboard Park with the Congaree Vista will be adjacent to the site, providing visual amenity as well as potential pedestrian interaction with the transportation

center. The State Museum will be located two blocks to the west on Gervais Street as well as the City Visitor's Center and Congaree Vista Parkway. The City Performing Arts Center has been proposed to be located along the Congaree River near the State Historical Museum. The active investigation of the West End District for residential and business development by investors provides exciting possibilities for the revitalization of the downtown area between the Central Business District and the river. The transportation center will serve as the pivotal influence and potential catalyst for whatever type of developmental growth is pursued. The expansion and relocation of businesses to the Central Business District gives the site direct access to the large volume of traffic generated by that area, thus aiding the efficient movement throughout the downtown area.

Taylor/Wayne/Hampton Street Area

This one block area is three blocks west of the Central Business District. Taylor Street is a one-way street serving as one of the principle west-bound traffic arterials serving the city, with Hampton Street functioning as its east-bound counterpart. Access to I-20 and I-26 is made through the junction of Hampton and Taylor Streets with Huger Street two blocks west of the site.

Rail Access: Excellent

The proposed rail corridor runs along the west edge of the site, depressed twenty-five feet below street level. The Seaboard Coastline

Railroad will operate trackline along the rail corridor, ensuring passenger train access to the site by AMTRAK.

Access to Principle Traffic Arterials: Excellent

The Taylor/Hampton Street system handles a large volume of east-west traffic to and from the Central City. The one-way traffic flow of each street provides convenient express routes for peak hour traffic volumes. Access to I-20 and I-26 is provided through the junction of Taylor and Hampton Streets with Huger Street. Four lanes of traffic both directions handle peak traffic in volumes effectively and would adequately accommodate additional bus traffic.

Relation to Local Transit: Good

Several city bus routes pass the site along Taylor and Hampton Streets. Additional routes serving the Sumter Street corridor could be modified to serve the site, and shuttle bus service could be established to accommodate bus transfers between the Sumter Street routes.

Relationship to Activity Generators: Good

The site is within adequate travel distance to the Central Business District and the State Capitol Complex. Though farther north of the University of South Carolina campus than the Central Business District, access is provided to the activity centers along Hampton Street east to Assembly, Main, and Sumter Streets. Being three to five blocks from the Central Business District, the site is within reasonable walking distrance of downtown activity.

Visibility: Fair

Hampton Street provides a wide vista toward downtown void of any landmarks or characteristic sequential relationships. The view from downtown to the river along Taylor Street is interrupted by the Central Correctional Institution. Upon completion of the Palmetto Center, visual relationship from the site to the downtown area will be more firmly established.

Availability of Land: Good

The Seaboard Coastline Railroad owns part of the site's right-of-way and would most likely operate the transportation center as a partner. The warehouses on the site will no longer be able to store railroad goods because of track relocation and will likely move, making acquisition of the site possible through separate purchases.

Impact/Relationship to Future Development: Good

The proposed Greenbelt Parkway from the Seaboard Park to the Congaree Vista surrounds the transportation center, providing visual amenity as well as pedestrian interaction with the Center. The parkway might work against the Center by separating it physically from the Central Business District, isolating it from primary urban activity generators by its park-like setting alluding to the Center as being a final destination for travelers. The site's location on the near north side of the Downtown District would limit the transportation center's neighborhood options for development due to the residential nature of this area.

River Drive/Beaufort/Barret Street Area

This two block area is one block west of North Main Street and is twelve blocks north of the Central Business District. Main Street is an important north-south traffic arterial for the city, providing access to the site from I-20 and I-26 through junctions at Sunset Drive and Elmwood Avenue. This area has been considered by the Seaboard Coastline Railroad for the new AMTRAK station's location.

Rail Access: Excellent

The Seaboard Coastline "S Line" bisects the site east to west and is the present trackline AMTRAK uses for its passenger service to Columbia. This line of track is effected by the rail relocation project in that the track will be raised to cross a new bridge over Park Street to the west of the site. This gradual increase in grade from the site to Park Street may necessitate a raised passenger platform for access to the transportation center.

Access to Principle Traffic Arterials: Good

River Drive connects the site with Main Street which is one block to the east and a principle north-south traffic arterial serving the Central Business District. Reasonable access to I-20 and I-26 is provided through the junctions of Main Street and River Drive with Sunset Drive and Elmwood Avenue.

Relation to Local Transit: Good

Several city bus routes pass along the edge of the site with a heavy volume of bus traffic moving along Main Street one block to the east. The site could be served by additional bus routes if their configurations were altered enough to "loop" toward the site.

Relationship to Activity Generators: Poor

The site is removed twelved blocks to the north of the Central Business District and even farther away from the State Capitol Complex and the University of South Carolina campus. Although Main Street provides good direct service to the activity generators, the utilization of shuttle service is necessary to close the long travel distances between them and the Center.

Visibility: Poor

Since this site alternative is slightly "off the beaten path" of principle traffic volume to the city, it would pose a problem for the identity of the transportation center by becoming more of an interruptive element than a flowing element to the sequence of movement to and from the city. The area surrounding the site is primarily residential, making for quite a contrast in scale and function between the transportation center and its setting.

Availability of Land: Good

Seaboard Coastline owns part of the site, having control over the railroad right of way and controlling the air right options over it for development. The rest of the site is undeveloped and available

for acquisition. A zoning variance will be required to allow for development of the transportation center in the predominantly residential area.

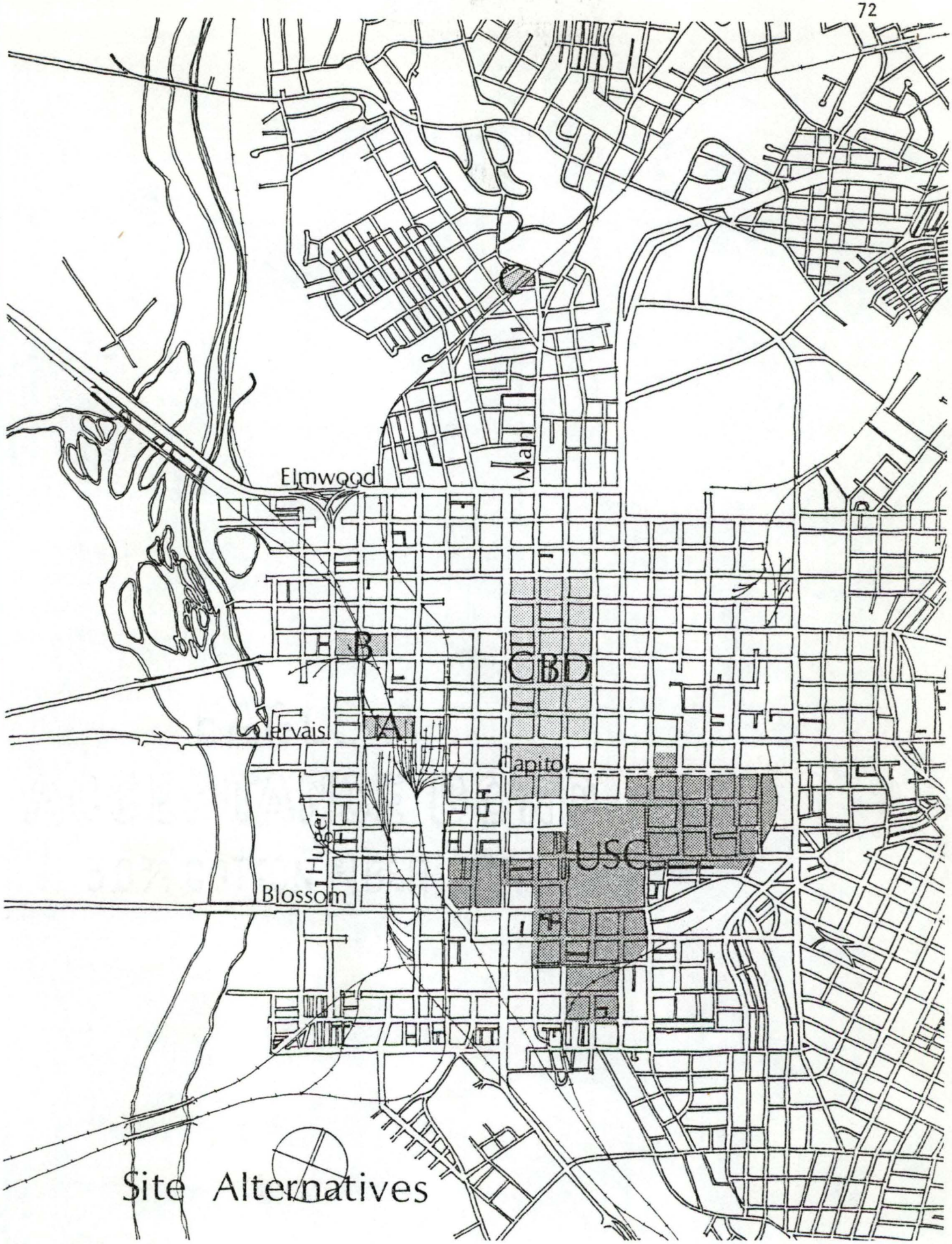
Impact/Relationship to Future Development: Poor

The site is surrounded by a highly developed residential neighborhood, with no other types of development foreseen. Revitalization and development will be limited due to the area's removal from the Central Business District. As a result, the impact of the transportation center on future development and activity in the area is minimal.

		A. Gervais/Lady Gadsden Pulaski Street Site		B. Taylor/Wayne Hampton Street Site		C. River Drive Beaufort/ Barrett Street Site	
	wf	cs	(wf)x(cs)=acs	cs	(wf)x(cs)=acs	cs	(wf)x(cs)=acs
Rail Access	28.6%	4	1.144	4	1.144	4	1.144
Access to Principle Traffic Arterials	21.0%	4	.840	4	.840	3	.630
Relationship to Local Transit	11.9%	3	.357	3	.357	3	.357
Relationship to Activity Generators	11.9%	3	.357	3	.357	1	.119
Visibility	14.0%	4	.560	2	.280	1	.140
Impact/Relationship To Future Development	11.9%	4	.476	3	.357	1	.119
Availability of Land	.7%	3	.021	3	.021	3	.021
Level of Total Criteria Satisfaction			3.755		3.356		2.530

4 - represents excellent satisfaction of criteria
3 - represents good satisfaction of criteria
2 - represents fair satisfaction of criteria
1 - represents poor satisfaction of criteria
0 - represents non-applicable element

cs - represents criteria satisfaction value
wf - represents weight factor
(wf)x(cs)=acs - represents adjusted criteria satisfaction level



Site Alternatives

Conclusion

Through the matrix analysis of the site location alternatives, the area bound by Gervais, Lady, Pulaski, and Gadsden Streets was determined to be the site best suited for the location of the proposed transportation center.

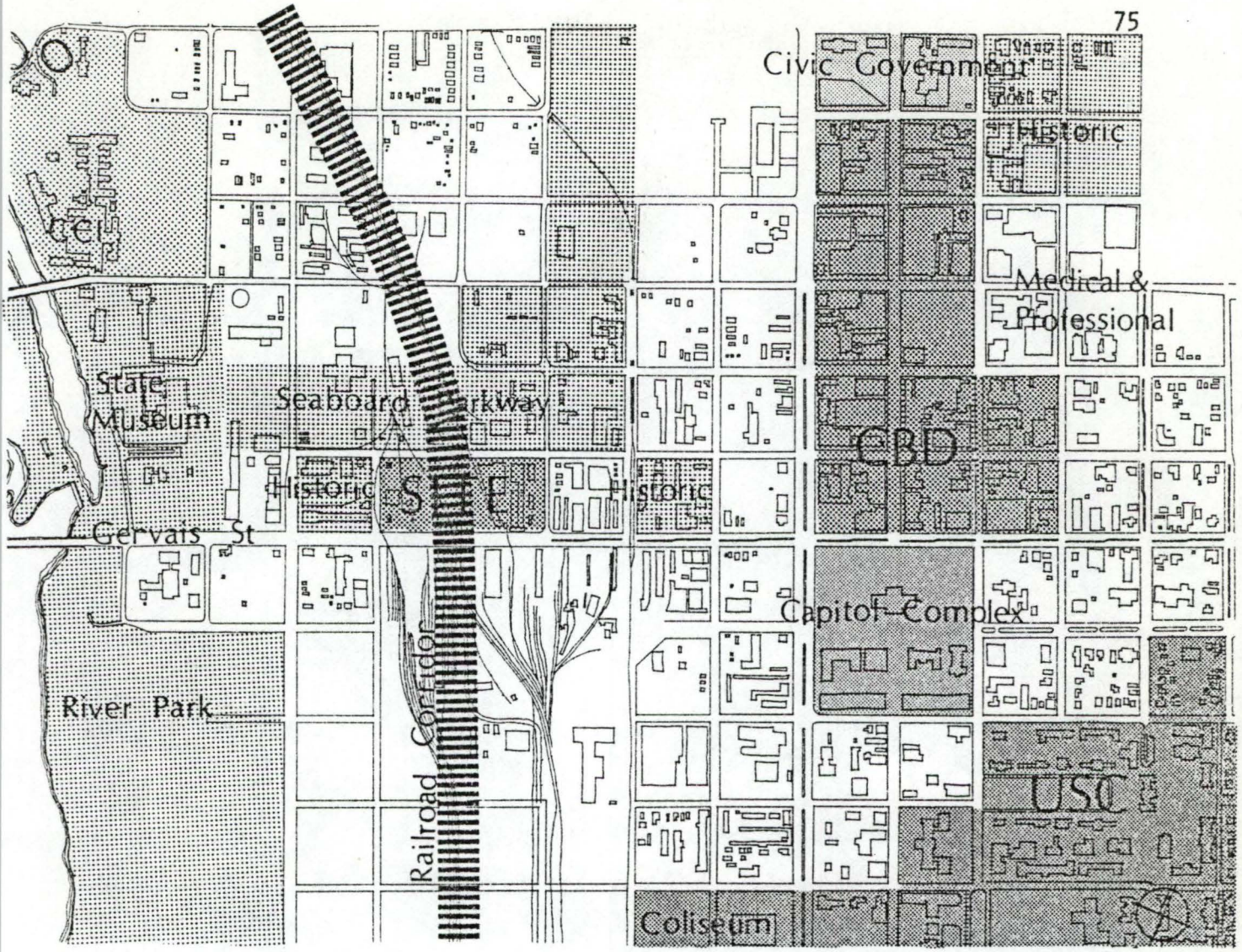
The two block area defining the site provides adequate space to accommodate the incorporation of the multi-modal services that will operate through the central transportation facility. The size of the site lends reasonable freedom to the exploration of schemes that would satisfactorily provide a built solution, allowing for the rational and efficient interrelationship of movement modes within their optimum spatial requirements.

Immediate proximity to Gervais Street gives the Center excellent access to a primary traffic arterial serving the city. The width and excellent maintenance of Gervais Street will provide for the necessary handling of the concentrated traffic activity that will result from the Center location.

The gently sloping topography of the site provides a dramatic view up Gervais Street to the Capitol Building and down to the river. The gradual slope of the site is minimal, creating no grade or fill problems for the situation of a building or traffic lanes on the site.

The Nineteenth Century brick warehouses that survived the Civil War and are adjacent to the site will provide visual character and a historical link to past for the transportation center. Along the existing railroad's right-of-way across Lady Street, there is a thick stand of brush and trees. This existing green area provides a soft edge to the north side of the site, and characterizes the proposed Greenbelt Parkway that will occupy that area.

Though removed three blocks west of the Central Business District, this site is centrally located to effectively serve all activity generators within the city. The location of the transportation center at this site will establish Columbia once again as a center for efficient and expeditious transportation movement through the city and the region, as it will stand as the hub for all modal activity moving throughout the area.



Area of Influence

Physical Character

The site selected for the transportation center is situated at a location central in proximity to the Central Business District, the State Government Complex, and the University of South Carolina campus. The site area and its immediate surroundings are undeveloped, and the adjacent steets along with the site itself are suited in size to accommodate large volumes of traffic due to the various movement modes served through the facility.

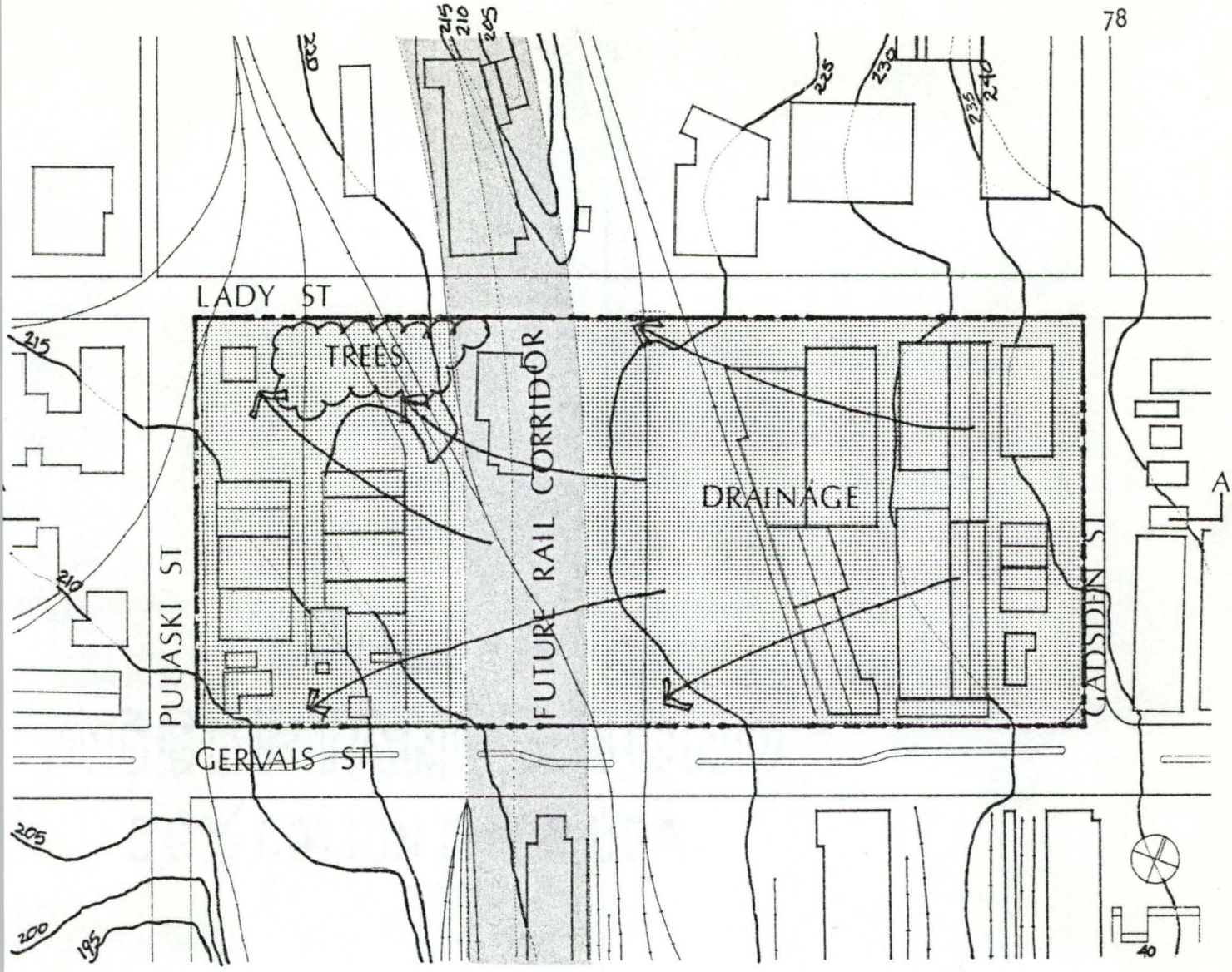
The site is barren of trees and shrubs except for a small thicket along its northwestern edge. The area along which railroad tracks bisect the site is overgrown with weeds and looks as if it were an abandoned field. The remainder of the site is surfaced with gravel or whatever vegetation manages to grow between the buildings.

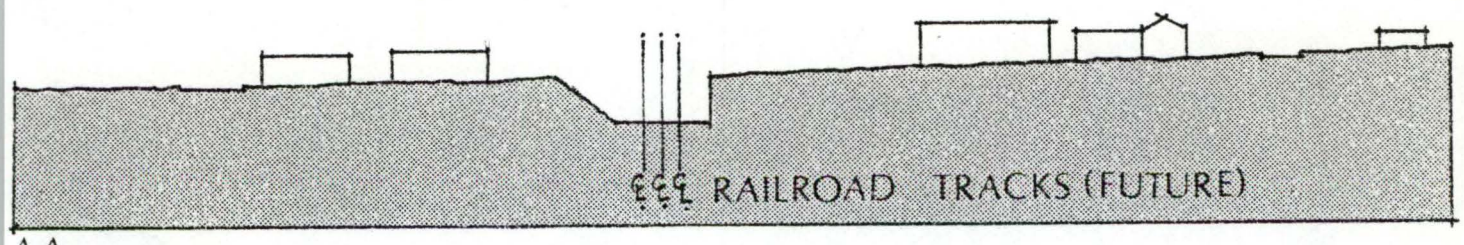
The site's topography has a very definite slope of approximately 1:37 from the northeast corner of the site to the southwestern corner. Though the slope is very gradual, there is a rise in topography of twenty-four feet from Pulaski Street east to Gadsden Street. With the development of the rail corridor will come a thirty-foot depression, eighty-four feet wide bisecting the site north to south. Site drainage is northeast to southwest; however, the rail corridor will interrupt the eastern half of the site's drainage pattern by channeling it down or around the rail depression.

Nearly all of the buildings on the site are of little historic significance or aesthetic value. The twin buildings at 1205 and 1211 Gadsden Street are of the same Nineteenth Century character as the old Seaboard Coast Line Freight Building built in 1890, which is on the south side of Gervais Street directly across from the site. These buildings have been renovated and are occupied by new tenants, reflecting a trend of professional service and small business operations on the increase in relocating the old Warehouse District.

The building on the northeast corner of the site at 1237 Gadsden Street is an example of the type of warehouse/office building typical of the Warehouse District. For this reason and the fact that it has been renovated and is occupied by a small business makes it, along with the other two buildings, worth saving for integration into the overall site development.

The rest of the buildings on the site are industrial buildings of metal, concrete block, or brick masonry. Some of the buildings are vacant; others are of a deteriorated condition and can be considered expendable if the site design solution requires demolition.





AA

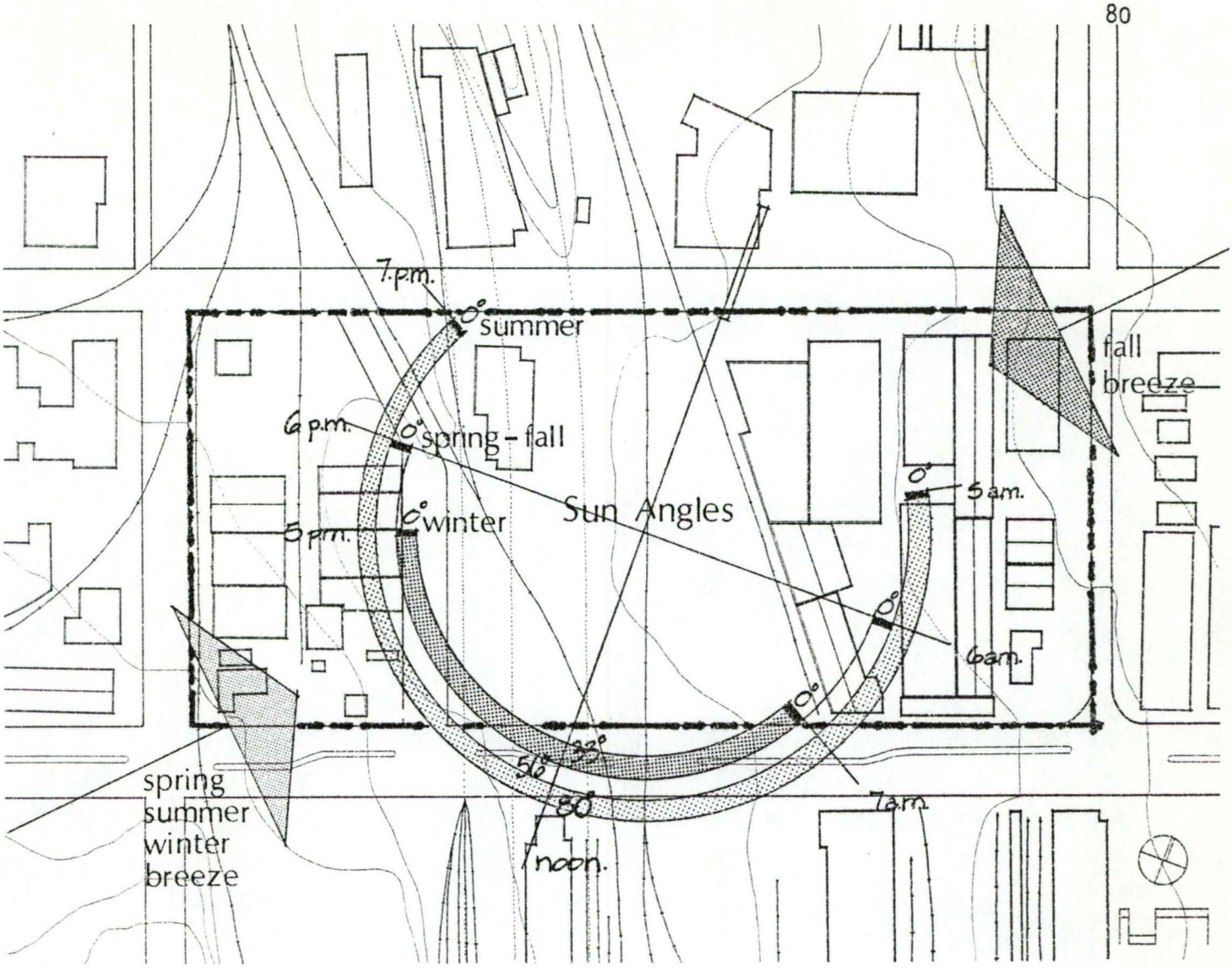
Physical Character

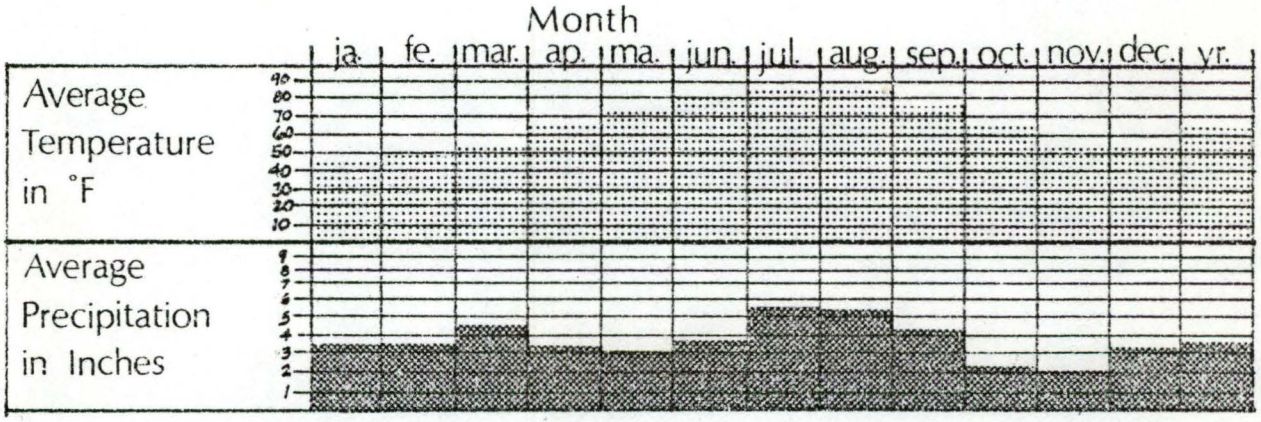
Environment

The absence of trees and buildings over two stories tall gives the site maximum exposure to sunshine. The proximity of Gervais Street along the southern edge of the site as well as its relative width provides maximum southern exposure to the site area.

The low buildings, treeless character, and large open areas expose the site to the prevailing winds that cross it. From November to August, the prevailing winds are from the southwest. September and October have the winds coming in from the northeast. The average windspeed across the site is seven miles per hour.

The immediate proximity of Gervais Street to the site presents a constant noise source effecting the area. Gervais Street is six lanes wide, with the constant traffic and large peak hour volumes creating a high level of noise as well as visual disturbance. The depressed rail corridor which will confine freight and passenger rail traffic to an eighty-four foot wide rail bed running through the center of the site will be another noise generator.





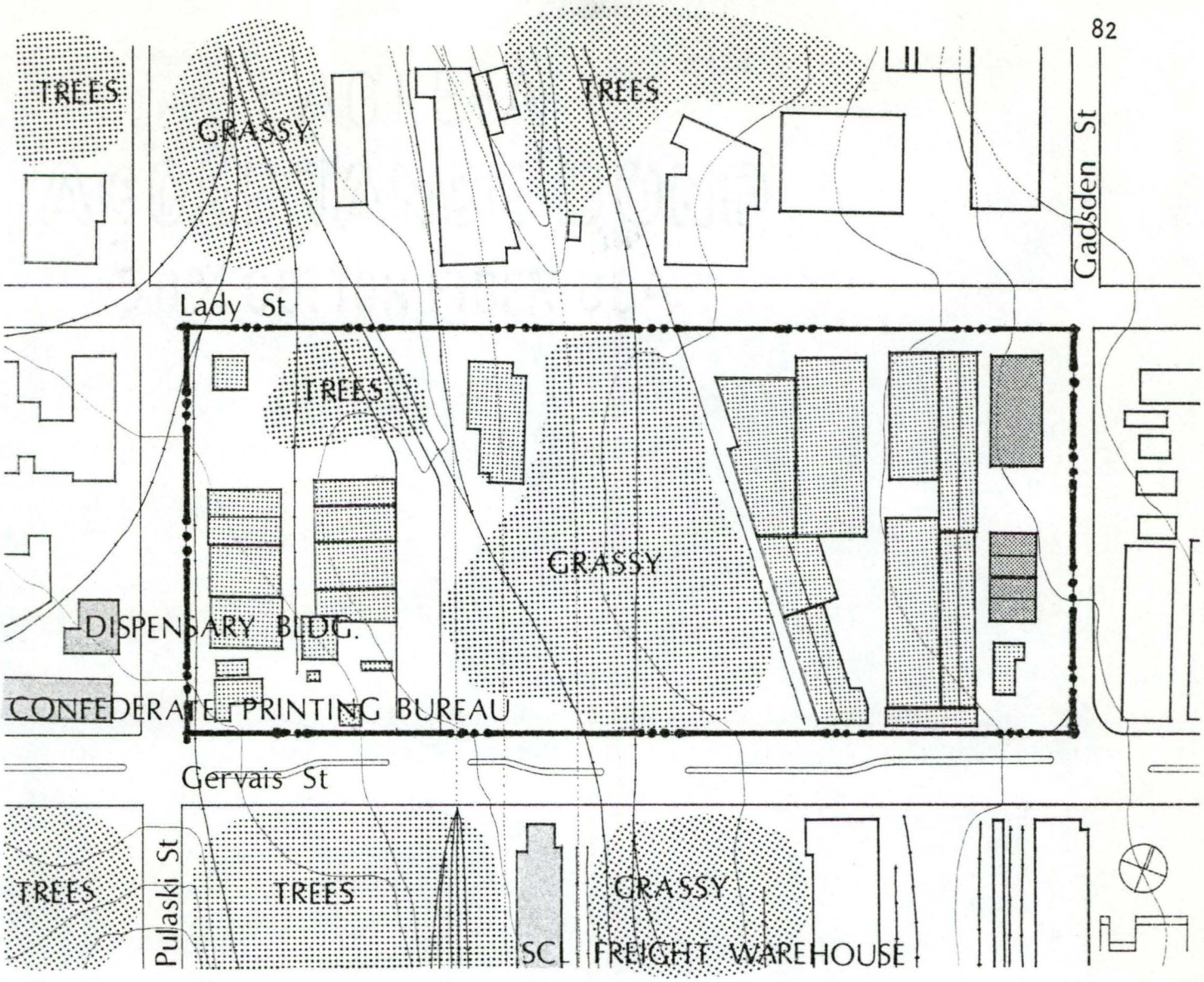
Environment

Character

Spatial Quality

The Warehouse District in the western downtown area of Columbia stands in marked contrast to its eastern counterpart. The area consists of both old and new warehouses clustered on blocks served by several railroad track heads. Other warehouses and small industrial buildings are scattered along the railroad right-of-ways radiating outward from the Central City. The spatial quality of the Warehouse District is that of open spaces occuring haphazardly between built areas as a result of buildings being razed and never rebuilt. The long snaking railroad right-of-way brings with it open areas paralleling the track line that are grown over with meadow grasses, weeds, and thickets of trees.

The combination of the spotty building development and the rail right-of-way give the west end of downtown a surprisingly rural character. The close proximity of the river to the Warehouse District gives it an open spatial quality, and identifies the west end more with the river area than with the Central Business District.



Buildings to be saved

Buildings to be demolished

Site Character

Images

North of the site across Lady Street is a scrub field and wooded thicket that follows along the railroad tracks which approach the site. These tracks are to be removed when the depressed rail corridor is implemented. The greenery present on that site is characteristics of the Greenbelt Parkway which will eventually link the Riverfront Park with the Seaboard Park downtown.

South of the site across Gervais Street is a wide open plain overgrown with weeds and boardered by clumps of trees. This area is now the Central Rail Yard but will be eliminated by the Railroad Relocation and Consolidation project. On this site stands the old Seaboard Coast Line freight warehouse, built in 1890. It lends definite "period" character to the area. Unfortunately, the depressed rail corridor route will cut through the building, necessitating its demolition.

West of the site across Pulaski Street stands the old Confederate Printing Bureau built in 1863 and the South Carolina Dispensary Office Building built in 1900. These buildings are of definite historical importance and add character to the neighborhood.

Views and Vistas

The views north and south from the site are onto undeveloped and overgrown fields and railyards. To the east and west are historic warehouses and

other industrial type buildings. None of the buildings stand over two stories tall, so there are no dominant structures in the immediate area.

The view from the site west along Gervais Street is downhill toward the Congaree River. The vista down the street has the Gervais Street bridge as a dominant element revealing broken views of the river to either side of the structure.

The view from the site east along Gervais Street rises uphill. The vista east consists of warehouses and commercial buildings hugging the street-line closely with the Statehouse dome rising up above the rooftops four blocks to the southeast. Farther east is the Bankers Trust Building which towers above the rest of the city.

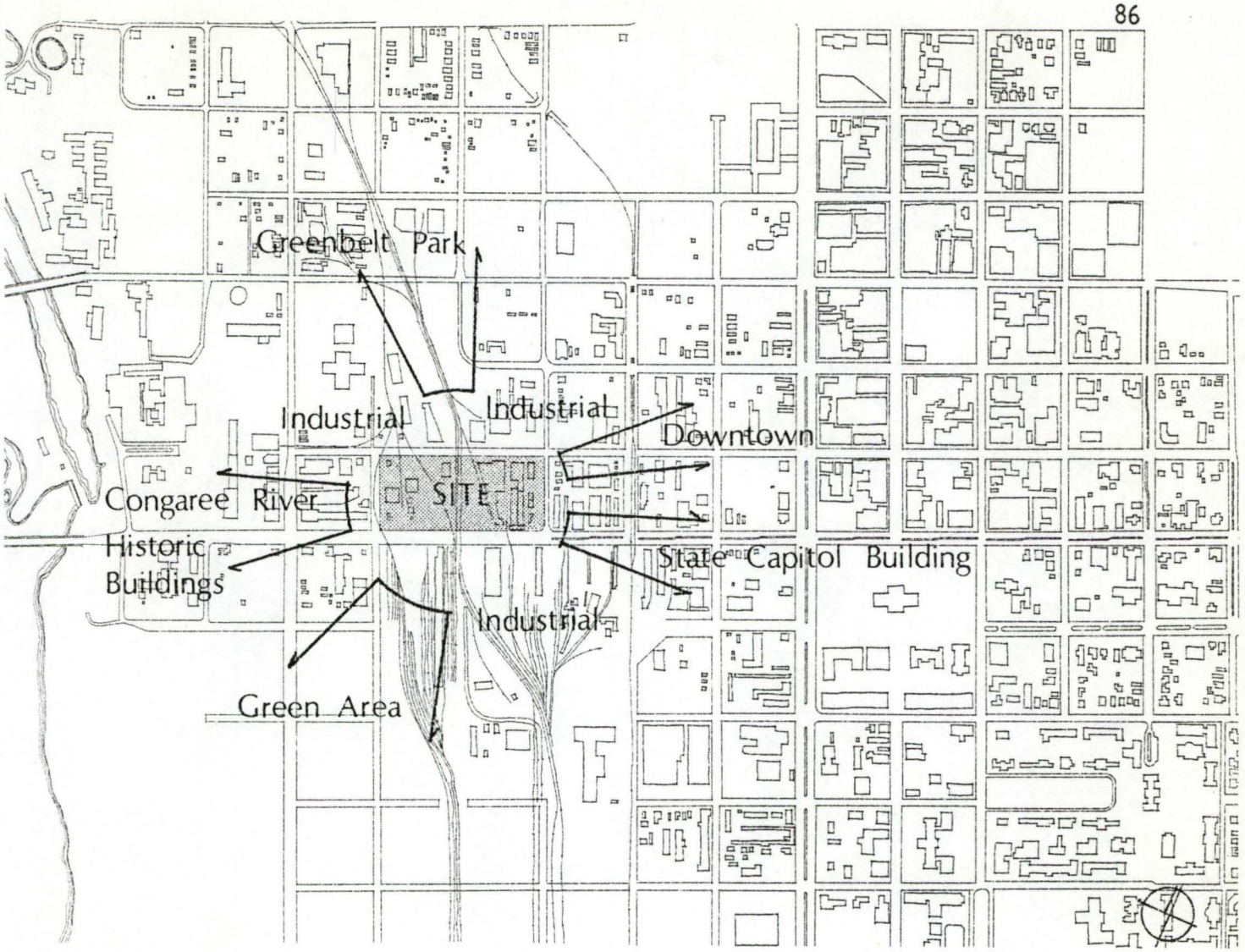
The rise in topography eastward, along with the high visibility of the State Capitol, provide an impressive visual sequence of approach from the site to Main Street and the Central Business District. As the Green-belt Parkway is developed to the north of the site, passengers arriving on the site will meet with a welcome view of Columbia. The combined views of parks and the Capitol building will create a positive image, allowing the transportation center to function as a gateway to the city.

The location of the site along Gervais Street enables the transportation center to serve as a point of visual reference for travelers in need of direction of orientation toward their trip destinations, relative to promi-nent images and landmarks visible throughout the downtown area.

Edges, Barriers, and Axes

The site lies at the crossing of two prominent axes running through the west end of the downtown area. The depressed rail corridor expresses the dominant north-south axis of the site, while Gervais Street defines the dominant east-west axis extending from the river to the Statehouse and passing along the south edge of the site.

The street edge along Gervais Street is consistent in its texture and composition, due to the building types and materials used in that area. The buildings along Gervais Street are no more than two stories tall and form a uniform edge against the sky that is unbroken by taller buildings. These uniform edges direct visual attention down the street framing the downtown area to the east and the river to the west. The edge formed against the sky creates a visual base for the Statehouse dome and the Bankers Trust Building, which rise above the city and establish a point of reference for people traveling along Gervais Street to downtown Columbia.



Views & Vistas

Case Studies

The examples of projects and facilities presented in this section illustrate various approaches taken in the development of several types of transportation centers.

South Station Transportation Center, Boston, Massachusetts

Scheduled to begin construction in 1982, Boston's South Station Transportation Center will be the first major inter-modal complex in the United States. The project involves restoration of the original 1898 South Train Station Headhouse and the development of a facility to serve local, commuter, and inter-city rail and bus systems. A major parking structure and connector to an existing subway line will also be incorporated within the facility.

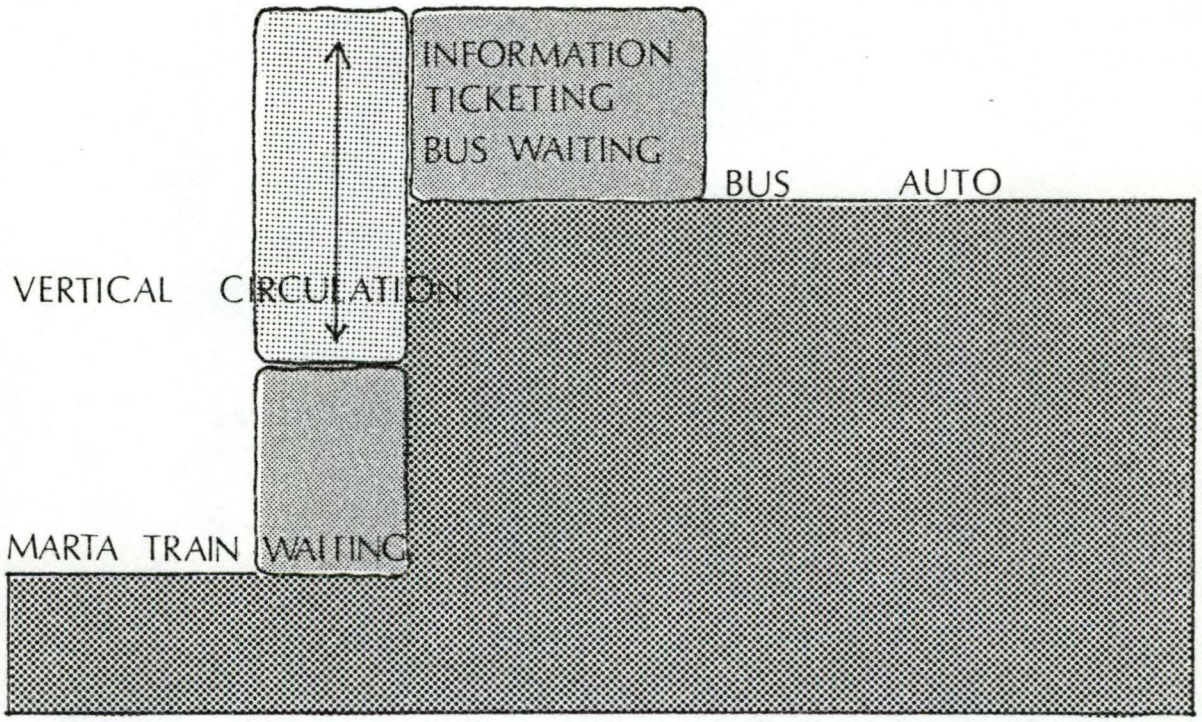
The layout of the Center is pedestrian oriented, separating the transportation modes by level changes and connecting them with a system of ramps, walkways, and escalators.

Information areas are provided in a large concourse area that separates the Headhouse from the new transportation center. Ticketing and waiting areas are placed near each of their respective transportation modes. All waiting and ticket areas relate to the atrium and concourse areas, providing vantage points for orientation within the facility.

MARTA Art Center Station, Atlanta, Georgia

Situated on a steeply sloping site, this transportation station serves the below grade MARTA passenger rail system. Passengers are brought to street level by escalators, stairways, or elevator.

MARTA bus service operates along a bus loop from Lombardy Street to the front of the transportation center. Adjacent parking areas are provided for long and short term needs, and a drive-thru passenger drop-off/pick-up area is situated between the bus loop, parking lot, and transportation station.

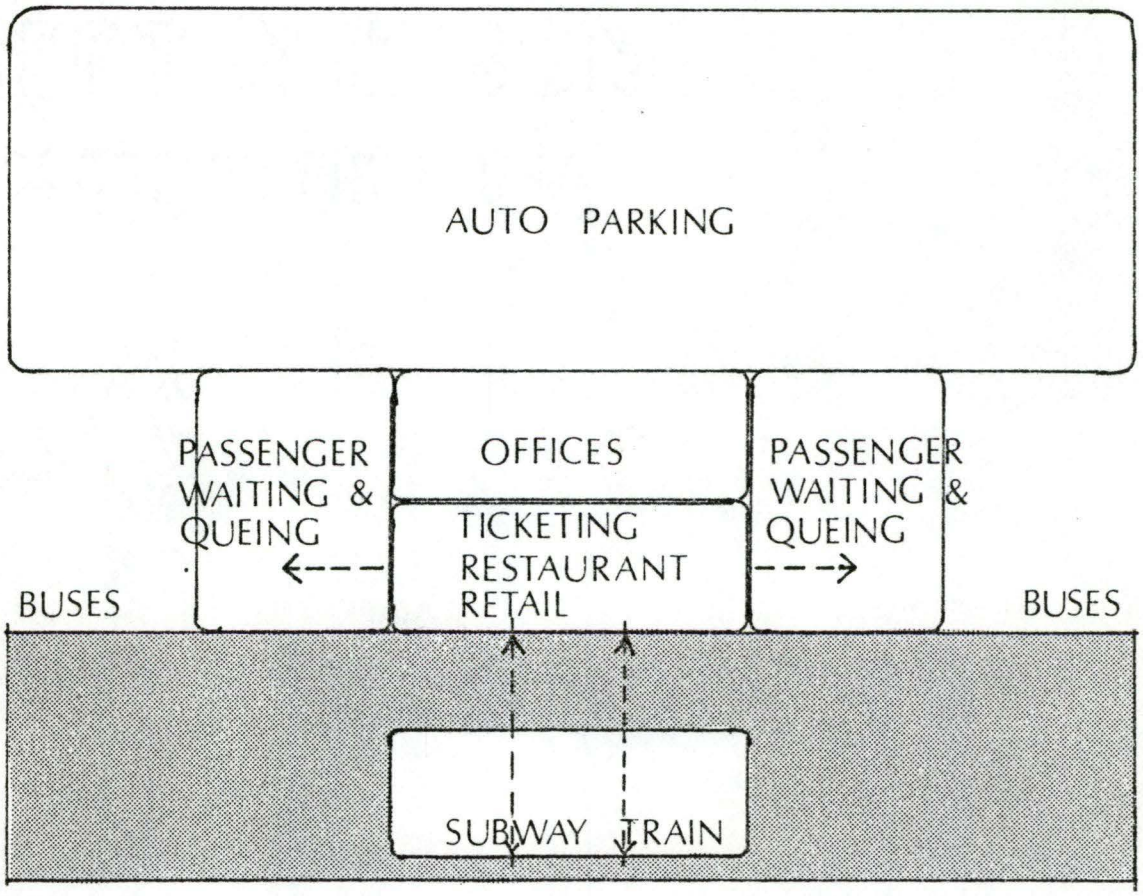


SCHEMATIC SECTION

Preston City Centre Bus Station, Preston, England

This transportation center is an inter-modal facility serving bus, automobile, and subway traffic. The scheme institutes definite separation of movement systems by level changes and a system of ramps.

The parking structure for automobiles provides a canopy for passenger queing areas, offices, ticket areas, concourse and eating areas. The span of the parking structure also shelters bus movement within the facility and provides a protective covered area for passenger loading and movement.



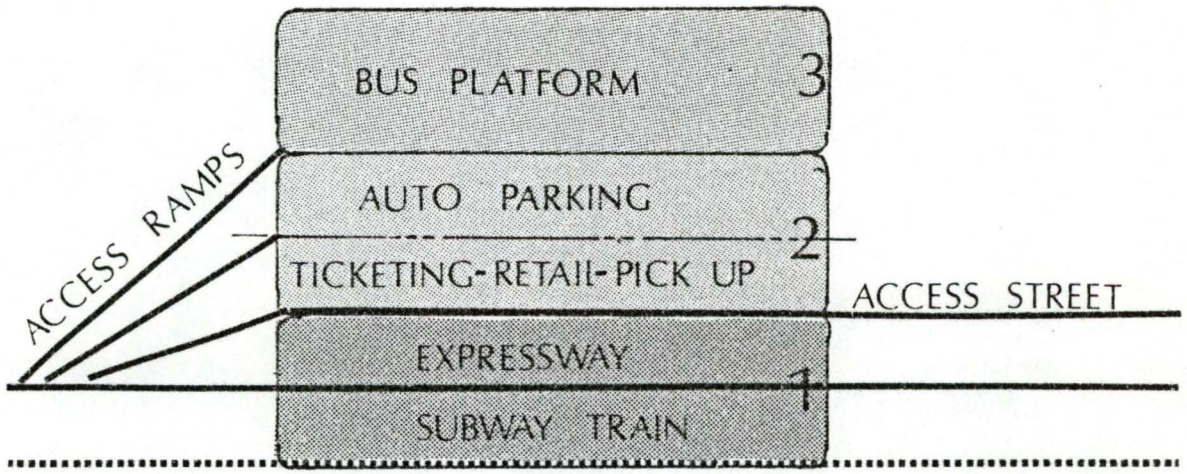
SCHEMATIC SECTION

Port Authority Bus Terminal, George Washington Bridge, New York City, N.Y.

This terminal center for bus, subway, and automobile traffic was the first building in the United States designed by Peter Luigi Nervi. The direction of freeway and bridge traffic to and through the terminal gives the facility the distinction of being Manhattan's only true physical gateway.

The use of an innovative structural system in the terminal opens up bus platforms and passenger concourse areas to light and air, creating large open spaces within the building which is sited in the midst of densely packed housing projects and office buildings.

The Center has three levels: buses on top beneath the trussed roof; passenger waiting, ticketing, retail, and pick-up areas on the middle level; and subway train and through expressway traffic passing along the lower level. A system of ramps serve the movement needs of each mode to its respective transit level.



SCHEMATIC SECTION

The Activities

Inter-city Bus

Inter-city bus provides express passenger and package service to cities in South Carolina and neighboring states as well as making connections with routes to cities across the nation. Persons interested in cross-country bus travel usually phone the bus line office for information on dates and times of arrivals and departures to their destination. Route schedules are available to the public at no cost and can be mailed or picked up at the bus depot upon request.

Persons using Greyhound or Trailways Bus Lines must buy their ticket and board their bus at the bus lines depot or an authorized stop in order to reach their trip destination by that mode. Rural flag stops are an exception. Travelers are usually delivered to bus terminals by automobile or public transportation and seldom leave parked vehicles behind. Once at the bus depot, the traveler purchases the full trip ticket and has baggage tagged with destination identification. Passengers receive one ticket with passenger copy if their destination is reached by one route. Additional tickets are added for each transfer required which comprise a "travel book" and are used to inform the passenger when and where they need to switch buses to reach their trip destination.

Both bus lines limit baggage to not more than two pieces totaling no more than one-hundred pounds per passenger fare. Carry-on luggage is not counted, but excess baggage may be carried as freight, and a shipping fee will be charged according to its weight. Baggage not carried on is checked at the ticket counter and taken to baggage handling to be loaded into the cargo hold of the bus.

Arrivals and departures, identified by their destinations, are announced by public address system to waiting passengers. Upon arrival, the bus pulls into its berth at the passenger platform in a straight-on manner. The loading platform for passengers is located curbside of the berth, either perpendicular to or angled slightly towards the loading side of the bus. Upon announcement of bus arrival, travelers are advised to prepare for boarding as buses unload passengers and baggage. When a bus is ready to load, travelers are called to their route's passenger platform, where after their ticket is punched or taken by the driver, they board the bus. Luggage is loaded along side the platform by luggage handlers simultaneous to the passenger boarding. Last call for passengers is made over the public address system, and after a specified period of time passes the bus backs out of its berth and proceeds to its next destination.

The transportation center proposes joint usage of bus traffic and staging areas of Greyhound and Continental Trailways. The traffic areas and turning radii required by bus movement through a sheltered facility is so great that to efficiently utilize space within the Center, areas specifically designed to accommodate buses must be used by all buses operated by

companies. The joint use of space will not carry over into the waiting and business areas of the bus facility. With respect to their competitive nature, Greyhound Bus Lines and Continental Trailways will require separate secured waiting areas, ticket counters, baggage areas, and business offices. Buses serving the facility would most likely approach the site along Gervais Street, entering the site from Gadsden or Pulaski Street.

City Bus

City bus service covers about eighty percent of the urban area in Columbia. Route service is provided at curb stops designated by signs marked "bus stop". Routes are lineal, traveling up and down the same streets on a set schedule. Bus schedules with route maps are available on the buses, identifying stop locations and scheduled route times for arrival and departure at each stop. Fares are paid upon boarding the bus, and transfers from route to route are free when within established travel zones.

Bus transfer and passenger service within a transportation center would be provided through a public waiting and access area, separate from the inter-city bus platforms. Loading areas would be located close to the street in order to facilitate minimum deviation from a bus route's headway time and basic route configuration. Bus movement requires parallel parking to the curbside loading area, with enough room between buses to provide quick pull-in/pull-out capability for the loading and unloading of passengers on schedule.

Shuttle Bus

Shuttle bus service would be established from the transportation center to expressly serve the major activity generators in the Central Business District, along with service to Fort Jackson. It would also make transfer connections with buses whose routes would not feasibly be altered to make direct connections with the transportation center. The approach, ticketing, and loading facilities used by the shuttle bus would be the same as used by the city buses.

Rail Service

Passenger rail service to Columbia is provided by AMTRAK, which operates along the Seaboard Coastline Railroad "S Line" track right-of-way. From Columbia, AMTRAK provides service south to Savannah, Georgia; Miami, Florida; and all points between. Passenger service north goes to Richmond, Virginia; Washington, D.C.; and New York City. Connections with routes nation-wide are made at all cities with depots, providing Columbia with a transportation link to major cities with AMTRAK service.

Persons interested in traveling by train have a toll free number they may call for information on AMTRAK schedules and fares nationwide. Tickets may be ordered by phone and mailed by AMTRAK to travelers when booked ten days prior to the trip date. Travel agencies also arrange passage on AMTRAK trains, handling all the necessary booking required for a trip

before arrival at the passenger station. Seventy-five percent of the passengers riding AMTRAK purchase tickets at their station of embarkation.

In order to ride the train, travelers must reach an authorized train stop or passenger depot to make their connection. Passengers arrive at train terminals by automobile or public transportation. Space is generally provided to meet long- and short-term parking needs.

Once at the train depot, travelers purchase their tickets at the ticket counter. Passengers may carry luggage on board the train, but if desired, luggage may be checked behind the ticket counter or express baggage counter where it is tagged with its destination and loaded separately onto a baggage car. Passengers receive one ticket and a passenger copy with their destination and stops between printed on them. Once aboard the train, each stop is punched on the passenger's ticket by the conductor. The ticket punching informs the passenger and conductor when trains must be changed for route transfer or when the destination has been arrived at.

Train arrivals and departures are announced over public address systems to waiting passengers, according to route number and destination. Depending upon the station and track design, the train pulls along side of the passenger platform. After passengers and baggage are unloaded, travelers are called to the platform where they board on the platform side of the train. Baggage is also loaded at this time. Last call for boarding is made over the public address system, and as the train pulls

away from the platform, the conductor walks through the cars from back to front punching tickets to account for all passengers on board.

With respect to rail service to the transportation center's site, the grade separation between the railroad bed and Gervais Street along the depressed rail corridor is thirty feet, making a below grade passenger platform necessary for access to the transportation center. Rail service at a lower level effectively separates trains from the spatial requirements of other transportation modes, elminating movement interference.

The shared usage of the railway corridor with two other railroad tracks necessitates the separation of the Seaboard Coastline track from the others within the confines of the transportation center. The isolation of passenger track from freight track will shelter passenger and public areas from noise, dirt, debris, odors, and dangerous express traffic due to freight trains operating along the potentially hazardous corridor right-of-way.

Air Travel

A regularly scheduled shuttle system between Columbia's Metropolitan Airport and transportation center would provide direct service between the two terminals. This would be accomplished by franchised limousine, shuttle bus service and city bus routes.

Automobiles

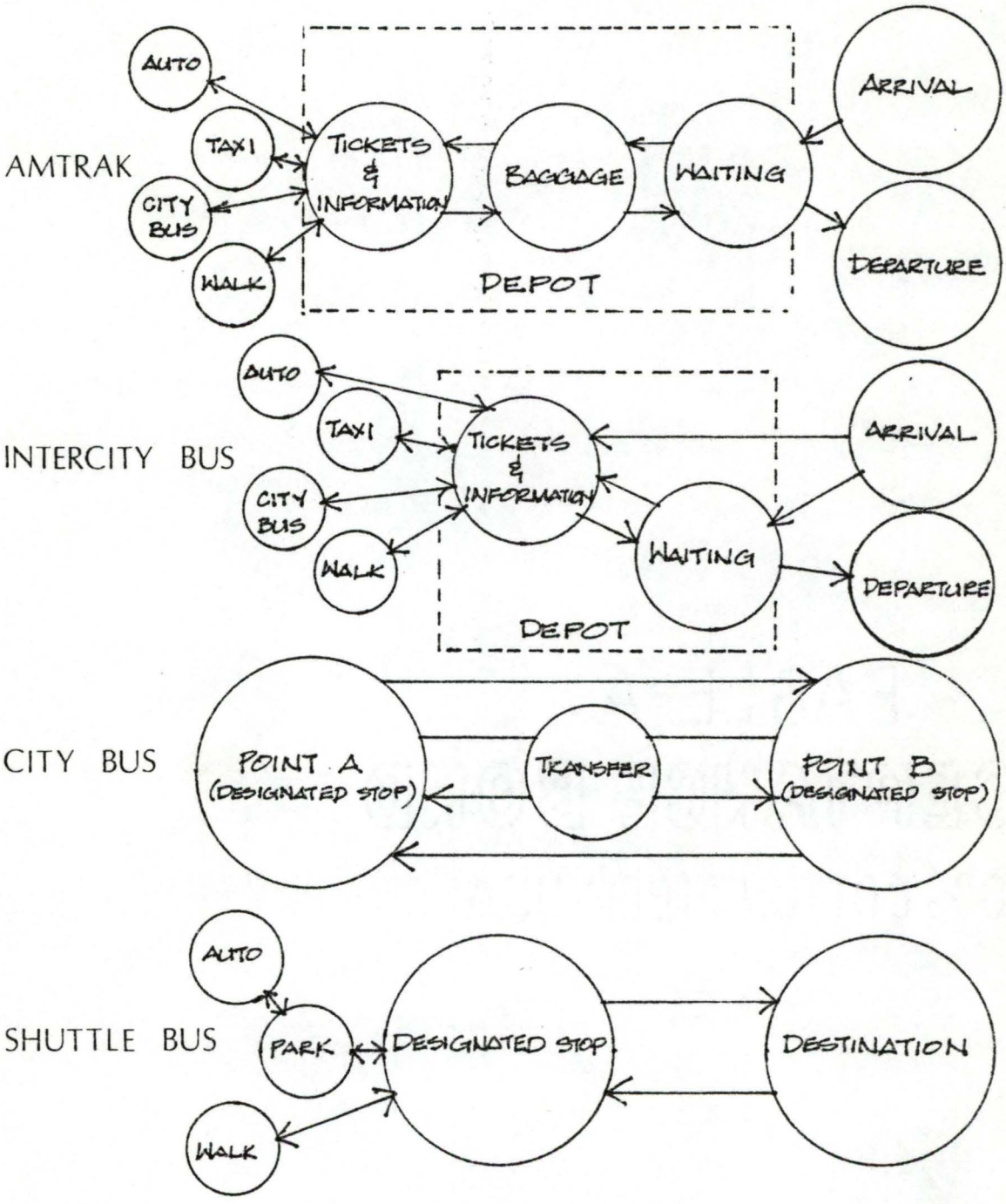
Travelers to the downtown area arriving in private automobiles would be encouraged to park their cars in a convenient designated parking area incorporated in the transportation center. From there, they would walk to their destination or transfer to a shuttle system or other mode of transportation. There would also be long term parking provided for travelers going on extended trips utilizing AMTRAK, inter-city bus, or an airline.

Taxi Service

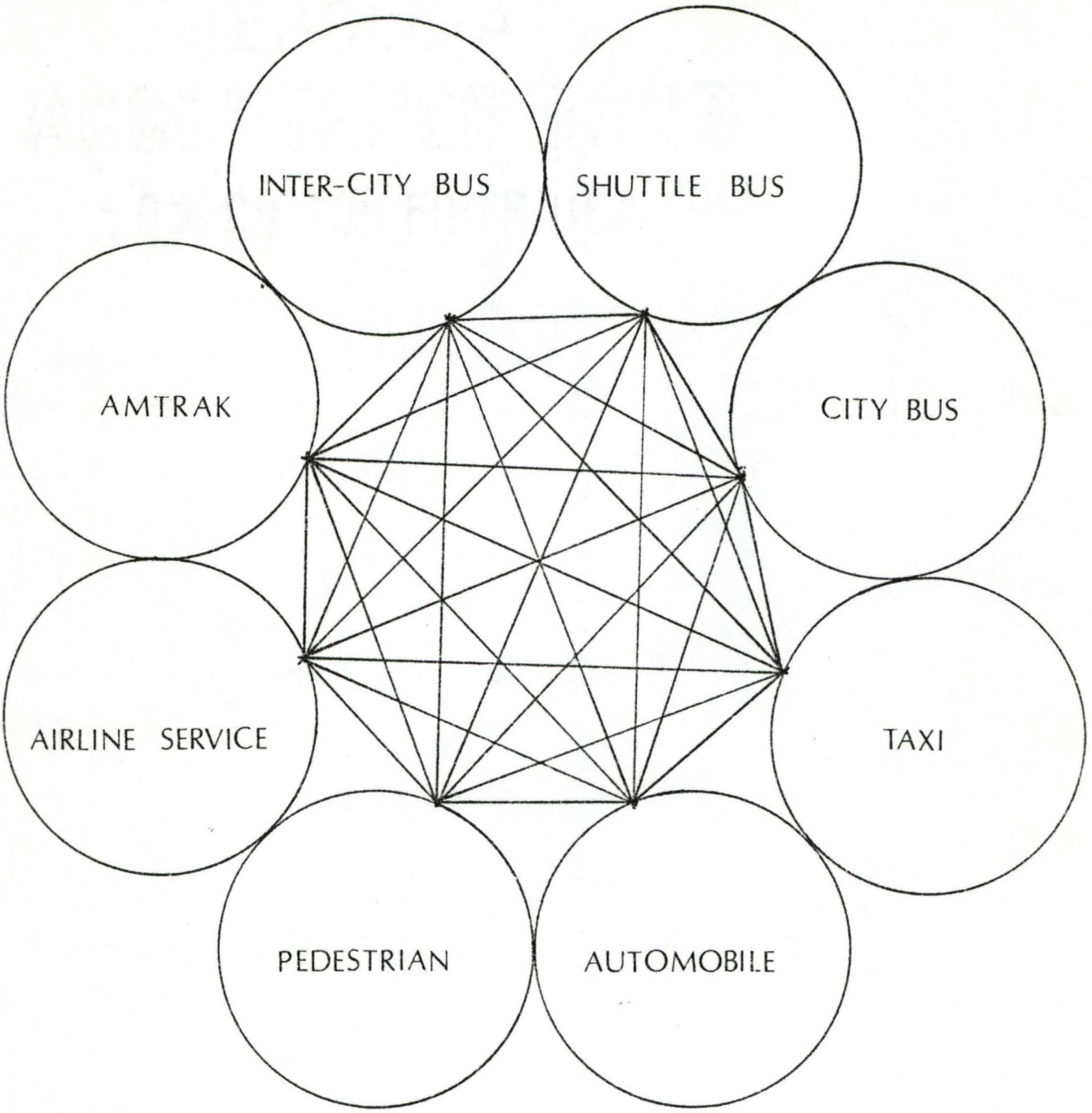
There would be a designated area for taxis to pull out of main traffic to load passengers and luggage in close proximity to the Center, separate from the other transportation modes.

Pedestrians

Pedestrian movement would be unrestricted by vehicular crossings and converge at a point of orientation within the facility. Movement to and from the outside of the transportation center must be clearly linked to existing pedestrian ways.

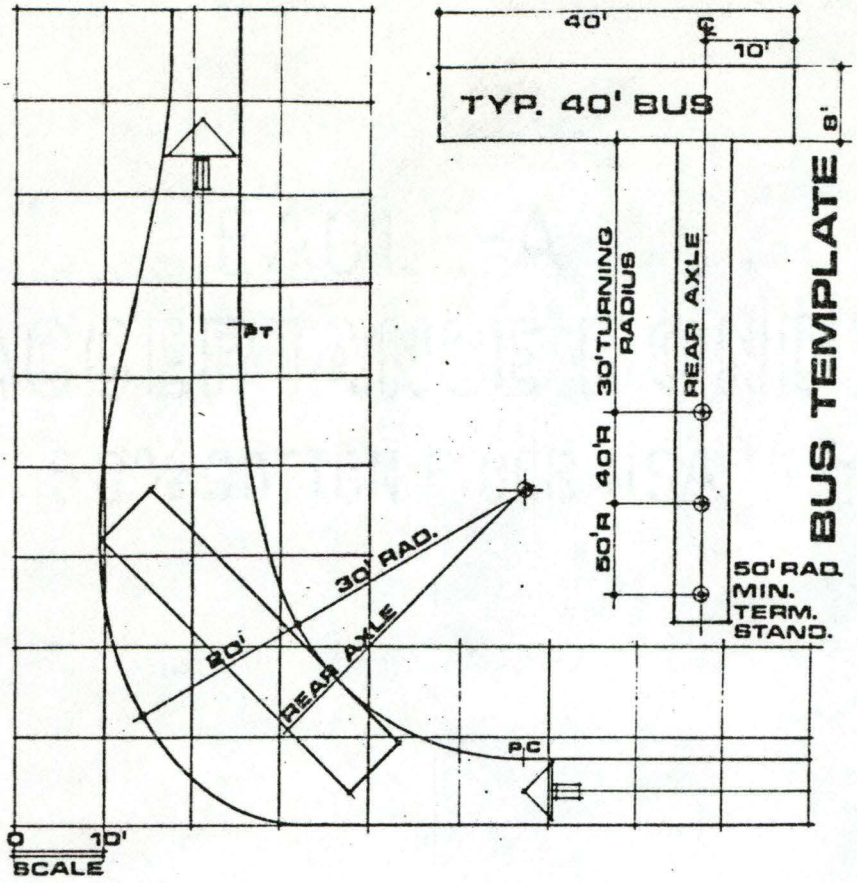

AMTRAK
AUTO
TAXI
CITY BUS
WALK
TICKETS & INFORMATION
BAGGAGE
WAITING
ARRIVAL
DEPARTURE
DEPOT
INTERCITY BUS
AUTO
TAXI
CITY BUS
WALK
TICKETS & INFORMATION
WAITING
ARRIVAL
DEPARTURE
DEPOT
CITY BUS
POINT A (DESIGNATED STOP)
TRANSFER
POINT B (DESIGNATED STOP)
SHUTTLE BUS
AUTO
PARK
WALK
DESIGNATED STOP
DESTINATION

Systems



System Relationships

Design Criteria

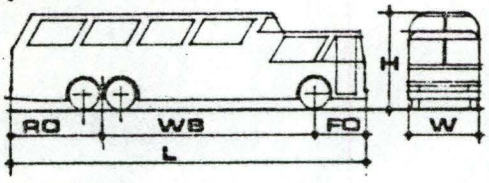


SWEEP PATH 40' BUS 90° TURN

BUS SPECIFICATIONS

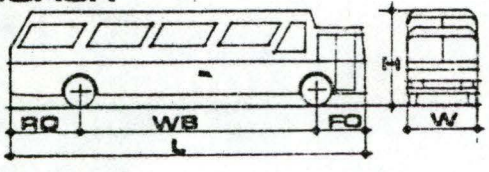
40' SCENICRUISER

L	LENGTH	40'0"
W	WIDTH	8'0"
H	HEIGHT	10'11"
WB	WHEEL BASE	23'7"
RO	REAR OVERHANG	10'7"
FO	FRONT "	5'9"
OR	MIN. OUTSIDE TURNING RADIUS	42'4"



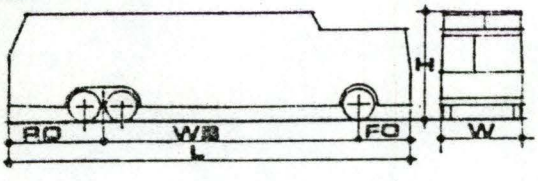
GMC INTERCITY COACH

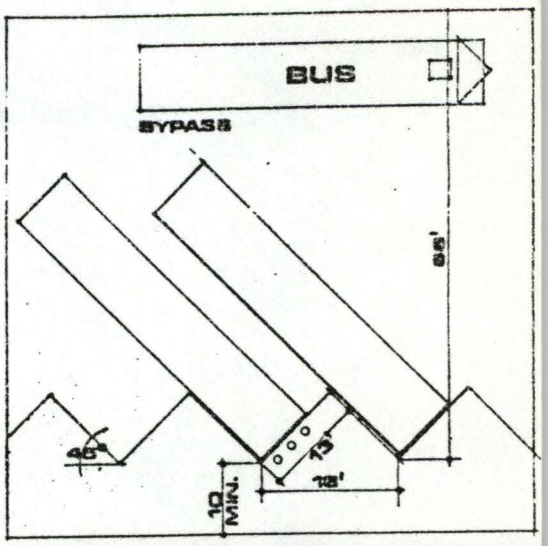
L	40'0"
W	8'0"
H	10'11"
WB	25'6"
RO	8'0"
FO	5'6"
OR	46'0"



FUTURE DEVELOP.

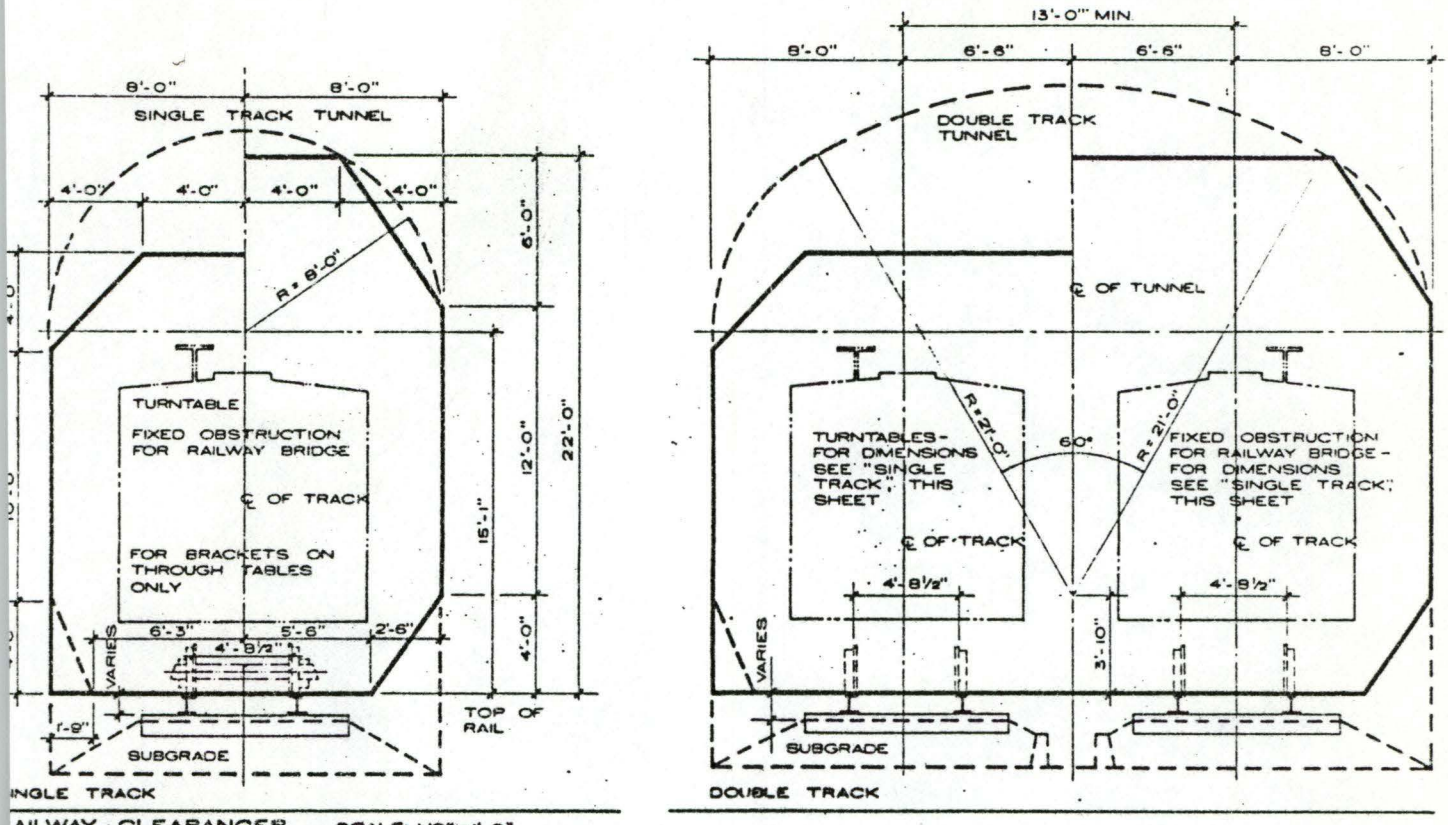
L	45'0"
W	9'0"
H	12'0"
WB	28'8"
RO	10'7"
FO	5'9"
OR	50'7"



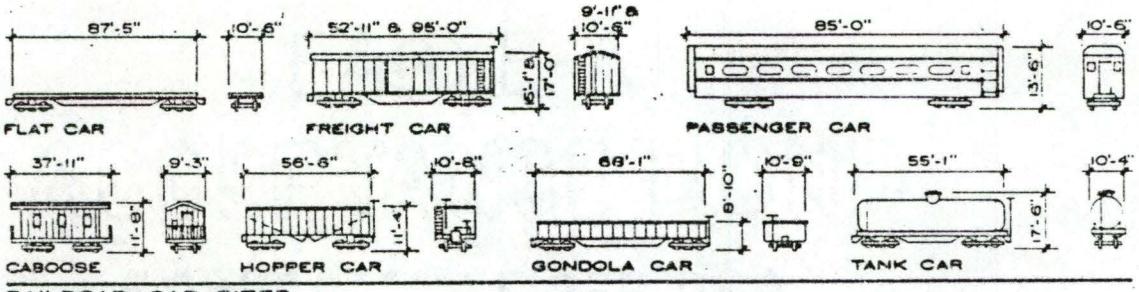


COUNTERCLOCKWISE MOTION

Bus Data

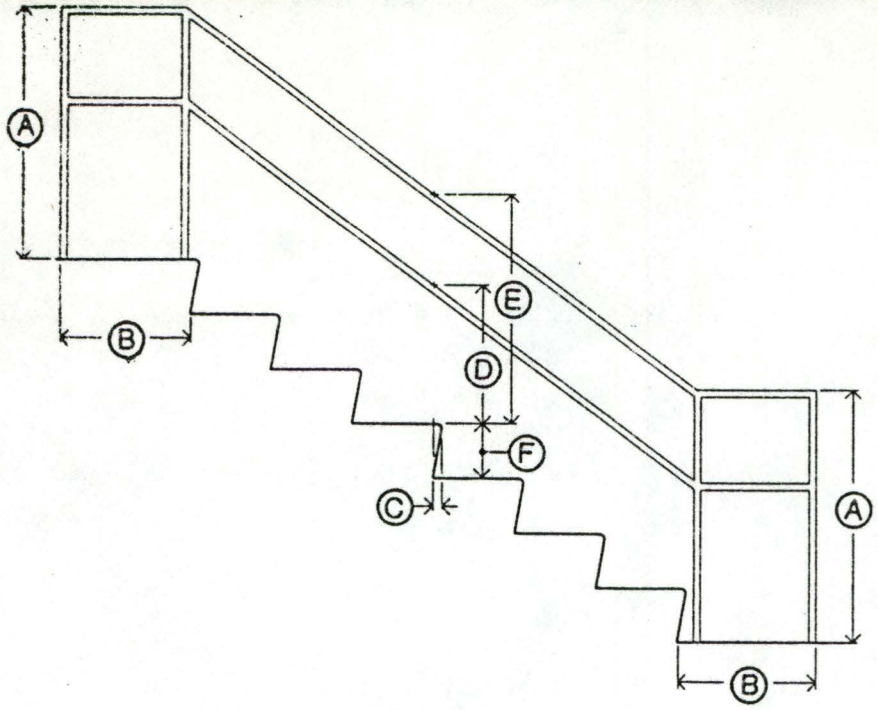


RAILWAY CLEARANCES SCALE: 1/8" = 1'-0"



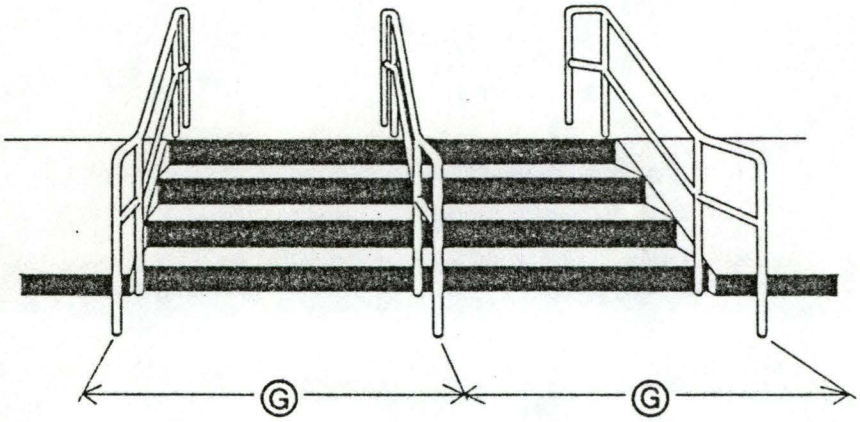
RAILROAD CAR SIZES

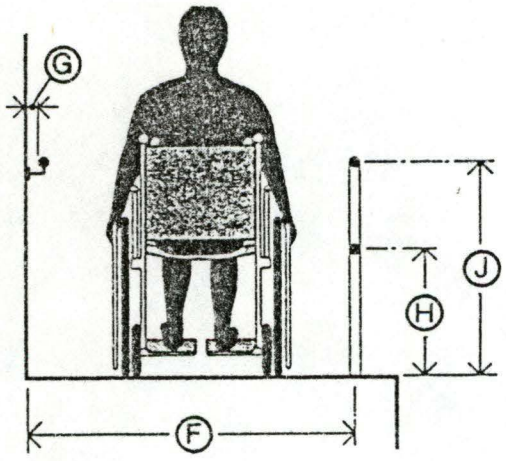
Train Data



DIMENSIONS & NOTES

A	Rail Top – 36" Max.
B	Extension – 1'-6" Min.
C	Nosing – 1-1/2" Max.
D	Mid Rail – 19" To 22"
E	Top Rail – 30" To 34"
F	Riser Recommended – 7"
G	Intermediate Handrails – 66" Max.
H	Nosing – 3/4"
J	1-1/2"
K	Square Nosing – Unacceptable





DIMENSIONS & NOTES

A	Level Rest Plarform – 5' Min.
B	Rest Interval – 30' Max.
C	Rail Beyond Top Or Bottom Of Walk Or Ramp – 12" Min.
D	Side Clearance – 12" Min.
E	Top And Bottom Of Ramp – 5' By 5' Platform
F	Walk Width – 4' Min. Ramp Width – 4' Min.
G	Wall Clearance – 1 1/2" Min.
H	Mid Rail – 19" To 24"
J	Top Rail – 32" Max.
K	Slope – 1 In 12 Or 8.33% Or 4 Degrees And 50 Min.

Handicap Considerations

The Program

APPROACH AREAS

Passenger Drop-off/Pick-up Areas — 200 Lineal ft.

Function:

Curb area and apron for automobiles, taxis, and airport limousines to load and unload passengers.

Requirement:

Locate at an area highly visible from primary access routes and immediately proximic to concourse and information areas within the center.

Bus Stops — 200 Lineal ft.

Function:

Curb area for eight city and shuttle bus stops.

Requirement:

Locate at a highly visible area from orientation points between parking and the center's concourse, near other pick-up areas.

Waiting Areas — 5,750 sq. ft.

Function:

Provide adequate area for passenger queing and unloading at curbside.

Requirement:

To provide sheltered waiting areas for passengers adjacent to loading and bus stop areas.

CIRCULATION

Passenger Concourse — 15,000 sq. ft.

Function:

To provide for the general orientation and free movement of pedestrians within the transportation center.

General Circulation — 12,000 sq. ft.

Function:

Ramps, elevators, escalators, stairways, and secondary corridors which connect areas within the center between different levels and to the concourse.

Requirements:

Provide emergency stairways and exits according to local fire and building codes.

TRAVEL SERVICES

Information Center — 200 sq. ft.

Function:

To provide information for travelers concerning city activities, travel directions, locator services, lodging accommodations, and where to make connections between transportation modes.

Restaurant and Lounge — 3,800 sq. ft.

Function:

Food and beverage service in a relaxed setting for travelers on the go or with time to spare. Bar area and lounge also provided for travelers and commuters accustomed to such an amenity.

Kitchen — 1,600 sq. ft.

Function:

Food preparation area for restaurant and bar.

Requirement:

Locate adjacent to restaurant with provisions for ventilation and service.

Storage — 400 sq. ft.

Function:

Dry storage of food and beverage for kitchen and bar.

Requirement:

Locate adjacent to served areas and service loading areas.

Coffee Shop — 1,200 sq. ft.

Function:

To provide beverage and fast food service to persons waiting to make travel connections, or passing through with no time to spare for a large meal.

Requirement:

Locate at a point between travel agencies, adjacent to the concourse and city bus stops. Provide kitchen facility.

Retail Space — (±)1,600 sq. ft.

Function:

Traveler oriented retail stores such as flower shops, newstands, barbershops, giftshops, etc. . . . for traveler convenience.

Requirements:

Locate along pedestrian ways.

Airport Express Office — 400 sq. ft.

Function:

Service will provide direct airport shuttle from the center to the particular company's terminal.

Requirement:

Locate close to passenger pick-up areas.

Rental Car Agencies (4) — 1,600 sq. ft.

Function:

To accommodate rental care agents in the receipt and dispersal of cars to customers within the transportation center.

Requirement:

Space for six rental companies. Locate in highly visible area of concourse.

Restrooms (2) 900 sq. ft.

Function:

To provide the traveler convenience apart from the transportation company terminal areas.

Telephone, Luggage Lockers, and Vending Area 350 sq. ft.

Function:

To provide pay telephone, temporary baggage storage, and vending machine service for traveler convenience.

Requirement:

Locate near concourse area.

Transportation Center Manager's Office 400 sq. ft.

Function:

Center operations manager's office.

Assistant Manager's Office 250 sq. ft.

Function:

Assistant to transportation center manager.

Secretary/Receptionist Area 400 sq. ft.

Function:

Secretarial and reception duties for transportation center manager and assistant.

Security Office 500 sq. ft.

Function:

To provide a center for security coordination and detention within the transportation center.

Maintenance Areas 500 sq. ft.

Function:

Room for housekeeping personnel and their equipment. Storage for cleaning agents.

Lounge 600 sq. ft.

Function:

Lounge area for transportation center employees of all companies and stores.

AMTRAK

Platform Area 3,600 sq. ft.

Function:

Sheltered area for passenger queing and baggage loading.

Requirement:

Located at trackside.

Waiting Area 1,000 sq. ft.

Function:

Space for passenger waiting on train's arrival to terminal.

Requirement:

Close proximity between platform area, ticket, and baggage counters.

Baggage Room 770 sq. ft.

Function:

Baggage sorting and handling.

Requirement:

Close proximity between platform area and baggage counter.

Baggage Counter 380 sq. ft.

Function:

Checking and receiving area for non-carry on luggage.

Requirement:

Close proximity between baggage room and ticket counter. Near waiting area.

Ticket Counter 380 sq. ft.

Function:

Purchase area for tickets and passenger information.

Requirement:

Close proximity to waiting area.

Ticket Office 380 sq. ft.

Function:

Control area for reservations, ticket sales, and information.

Requirement:

Close proximity to ticket counter.

Station Manager's Office 200 sq. ft.

Function:

Office for operations coordinator's office.

Passenger Ticketing and Baggage Claim Queing Area 1,300 sq. ft.

Function:

Public area for ticket purchase and baggage claim waiting.

Requirement:

Adjacent to ticket and baggage counter.

Circulation to Concourse 1,600 sq. ft.

Function:

Public area for pedestrian movement to concourse from waiting area.

Restrooms (2) 450 sq. ft.

Requirement:

Proximic to waiting area.

Station Equipment Room 320 sq. ft.

Function:

Maintenance area for tools and equipment.

Requirement:

Adjacent to platform and track.

Maintenance Room 100 sq. ft.

Function:

Area for housekeeping equipment

GREYHOUND BUS LINES

Bus Berths 4,000 sq. ft.

Function:

Bus parking for passenger, baggage, and freight loading.

Requirement:

Six spaces.

Bus Storage 1,200 sq. ft.

Function:

Bus parking for vehicles not in service.

Requirement:

Two spaces.

Passenger and Baggage Platform 1,400 sq. ft.

Function:

Area for passenger queing and baggage loading.

Requirement:

Along side bus berth.

Waiting Area 2,400 sq. ft.

Function:

Area for traveler comfort while waiting for bus arrivals and departures.

Requirement:

Close proximity between passenger platform and ticket counter.

Baggage and Express Package Rooms — 1,500 sq. ft.

Function:

Area for baggage or package handling and sorting.

Requirement:

Close proximity between baggage platform and baggage counters.

Shipping Room — 600 sq. ft.

Function:

Area for freight handling and inventories.

Requirement:

Close proximity to baggage platform.

Shipping and Express Package Counter — 200 sq. ft.

Function:

Area for shipping transactions and pick-ups.

Requirement:

Adjacent to shipping and express room.

Baggage Counter — 80 sq. ft.

Function:

Area for baggage checking and pick-up.

Requirement:

Adjacent to baggage room and ticket counter.

Ticket Counter — 200 sq. ft.

Function:

Station for ticket purchase and information.

Requirement:

Adjacent to company offices and waiting area.

Vending Area — 100 sq. ft.

Function:

To provide space for convenience food vending machines.

Requirement:

Incorporated within waiting area.

Restrooms (2) — 450 sq. ft.

Requirement:

Adjacent to waiting area.

Station Manager's Office — 200 sq. ft.

Function:

Office for company operations manager.

Requirement:

Adjacent to ticket counter.

Customer Service Office (4) 600 sq. ft.

Function:

Office for agent's providing information on route bookings, charters, and sales.

Requirements:

Adjacent to manager's office.

Cash Room 100 sq. ft.

Function:

Secure area for cash box transfer and register sales to safe.

Requirement:

Adjacent to dispatcher and bus platform.

Driver Sleeping Room 280 sq. ft.

Function:

Overnight sleeping facilities for bus drivers.

Requirement:

Adjacent to company offices.

Dispatcher Room 100 sq. ft.

Function:

Announcement and control of route arrivals and departures.

Requirement:

Close to bus platforms.

Mechanic's Room — 160 sq. ft.

Function:

Workroom for mechanic's tools and parts.

Requirement:

Adjacent to bus platforms.

Storage — 80 sq. ft.

Function:

Dry goods storage area.

Circulation to Concourse — 640 sq. ft.

Function:

Area for visual orientation and pedestrian way between bus company and concourse.

Requirement:

Adjacent to waiting and ticket area.

CONTINENTAL TRAILWAYS BUS LINES

Bus Berths — 4,000 sq. ft.

Function:

Bus parking for passenger, baggage, and freight loading.

Requirement:

Six spaces.

Bus Storage — 1,200 sq. ft.

Function:

Bus parking for vehicles not in service.

Requirement:

Two spaces.

Passenger and Buggage Platform — 1,400 sq. ft.

Function:

Area for passenger queing and baggage loading.

Requirement:

Along side bus berth.

Waiting Area — 2,000 sq. ft.

Function:

Area for traveler comfort while waiting for bus arrivals and departures.

Requirement:

Close proximity between passenger platform and ticket counter.

Baggage and Express Package Room 1,500 sq. ft.

Function:

Area for baggage or package handling and sorting.

Requirement:

Close proximity between baggage platform and baggage counters.

Express Package and Shipping Counter 160 sq. ft.

Function:

Area for shipping transaction and pick-up.

Requirement:

Adjacent to baggage and express package room.

Express Package Agent 100 sq. ft.

Function:

Freight shipment coordinator's office.

Requirement:

Adjacent to express package and shipping counter.

Baggage Counter 80 sq. ft.

Function:

Area for baggage check and pick-up.

Requirement:

Adjacent to baggage room and ticket counter.

Ticket Counter 240 sq. ft.

Function:

Station for ticket purchase and information.

Requirement:

Adjacent to company offices and waiting area.

Branch Manager's Office 200 sq. ft.

Function:

Office for company operations manager.

Requirement:

Adjacent to ticket counter.

Customer Service Office (2) 300 sq. ft.

Function:

Offices for agents providing information on route bookings, charters, and sales.

Requirement:

Adjacent to manager's office.

Employee Lounge 200 sq. ft.

Function:

Rest area for eating and employee breaks.

Requirement:

Adjacent to company offices.

Cash Room 100 sq. ft.

Function:

Secure area for cash box transfer and register sales to safe.

Requirement:

Adjacent to dispatcher and bus platform.

Driver Sleeping Room 280 sq. ft.

Function:

Overnight sleeping facilities for bus drivers.

Requirement:

Adjacent to company offices.

Dispatcher Room 100 sq. ft.

Function:

Announcement and control of route arrivals and departures.

Requirement:

Close to bus platforms.

Mechanic's Room 160 sq. ft.

Function:

Workroom for mechanic's tools and parts.

Requirement:

Adjacent to bus platform.

Janitor's Room — 64 sq. ft.

Function:

Housekeeping storage and mop sink area.

Requirement:

Adjacent to company public areas.

Storage Room — 80 sq. ft.

Function:

Dry goods storage area.

Restrooms (2) — 450 sq. ft.

Requirement:

Adjacent to waiting area.

Vending Area — 100 sq. ft.

Function:

To provide space for convenience food vending machines.

Requirement:

Incorporated within waiting area.

Circulation to Concourse — 640 sq. ft.

Function:

Area for visual orientation and pedestrian way between bus company and concourse.

Requirement:

Adjacent to waiting and ticket areas.

BUILDING SERVICE

Mechanical Rooms — 5,000 sq. ft.

Function:

To provide for ventilation of areas from vehicle exhaust fumes, heating, ventilation, and air conditioning of facility areas, and the supply of water.

Requirement:

Located centrally to provide efficient, economical service to the center.

Maintenance Room — 400 sq. ft.

Function:

To provide office and workspace for building superintendent and equipment operators.

Requirement:

Adjacent to mechanical room.

Trash Room — 200 sq. ft.

Function:

Area for trash compaction and retention of solid waste for scheduled trash pick-ups.

Requirement:

Access to driveway and loading area of size to accommodate a large garbage truck.

PARKING GARAGE

Parking Spaces — 470,000 sq. ft.

Requirement:

Area to park 950 cars.

Security Office — 1,200 sq. ft.

Function:

Center for parking structure security police, communications, and office.

Requirement:

Locate in an area of high visual control and central physical access to areas within the parking structure.

TRANSPORTATION CENTER

Circulation	27,000 sq. ft.
Travel Services	14,000 sq. ft.
Amtrak	10,480 sq. ft.
Greyhound Bus Lines	14,570 sq. ft.
Continental Trailways Bus Lines	13,354 sq. ft.
Building Services	5,600 sq. ft.
Total	85,004 sq. ft.

PARKING GARAGE 471,200 sq. ft.

APPROACH AREA

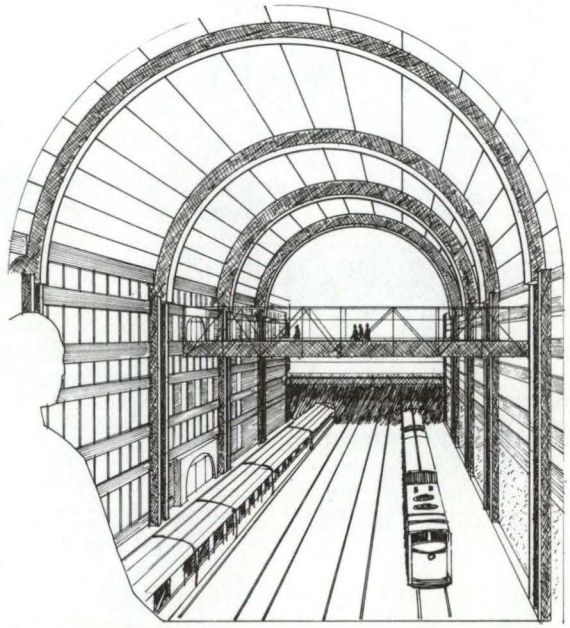
Curb Space for Drop-offs	400 lineal ft.
Waiting	5,750 sq. ft.

The Project

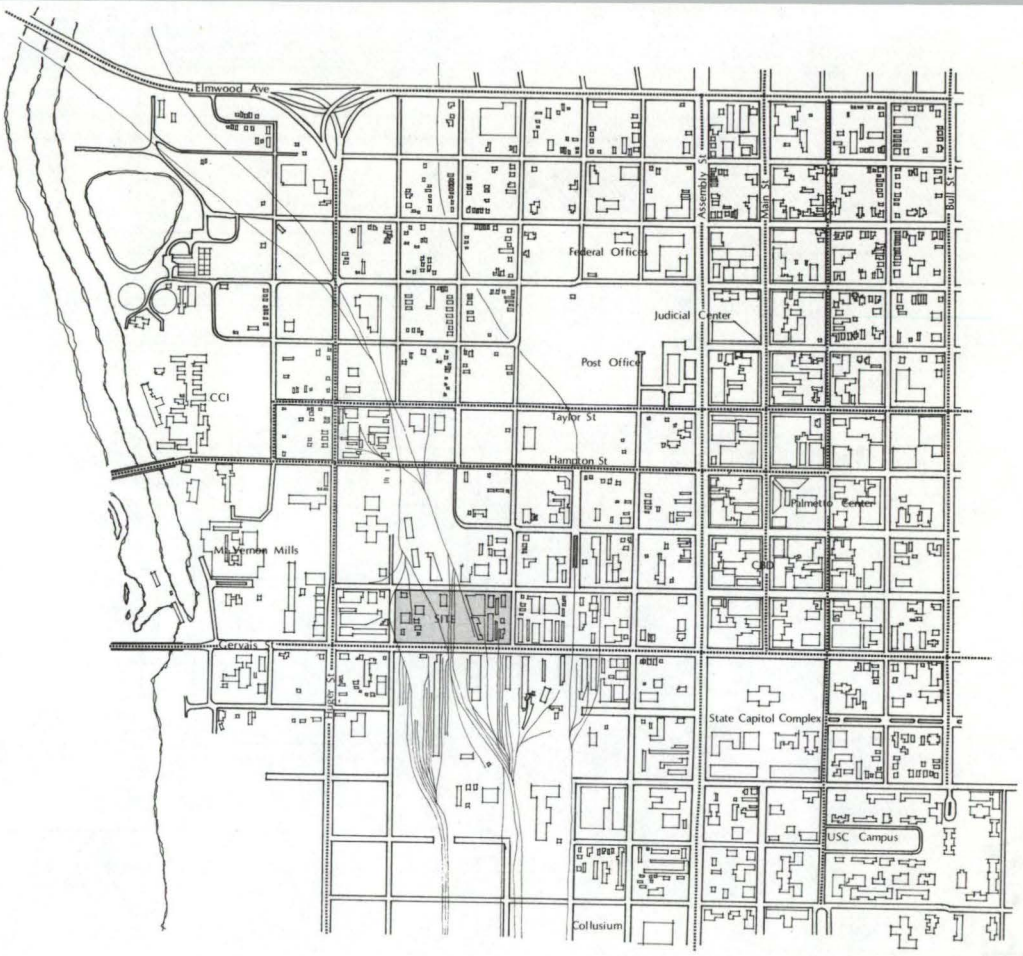
Columbia Transportation Center

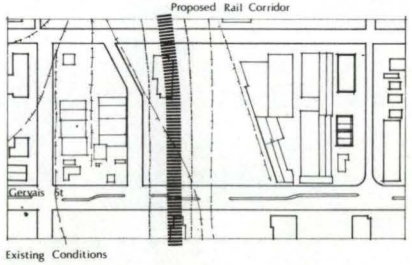
Columbia, S.C.

Gary G. Woodward Terminal Project Fall 1982

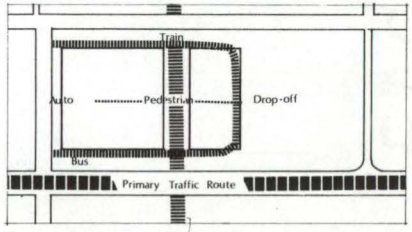


The railroad corridor

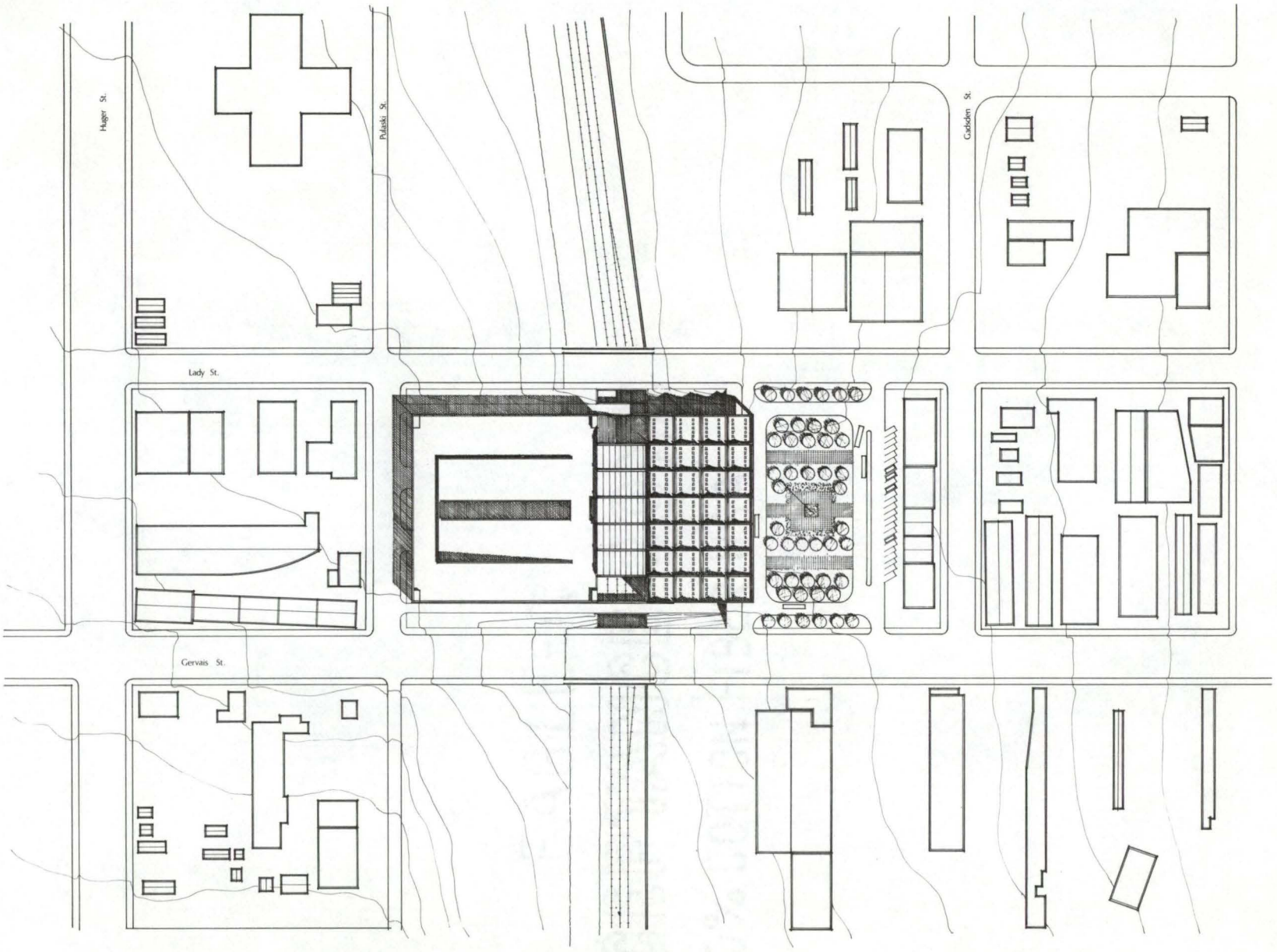




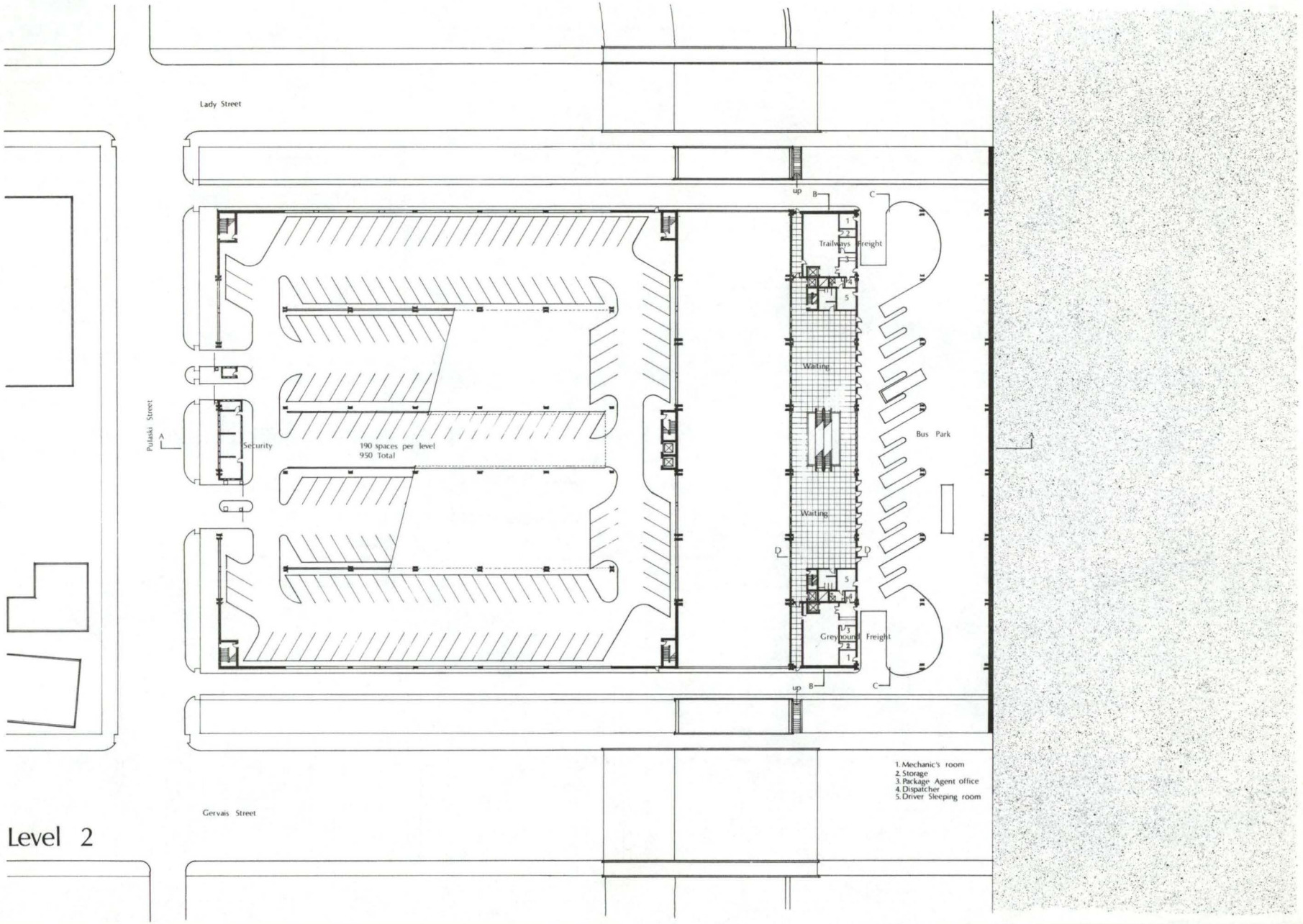
Existing Conditions



Movement Concept

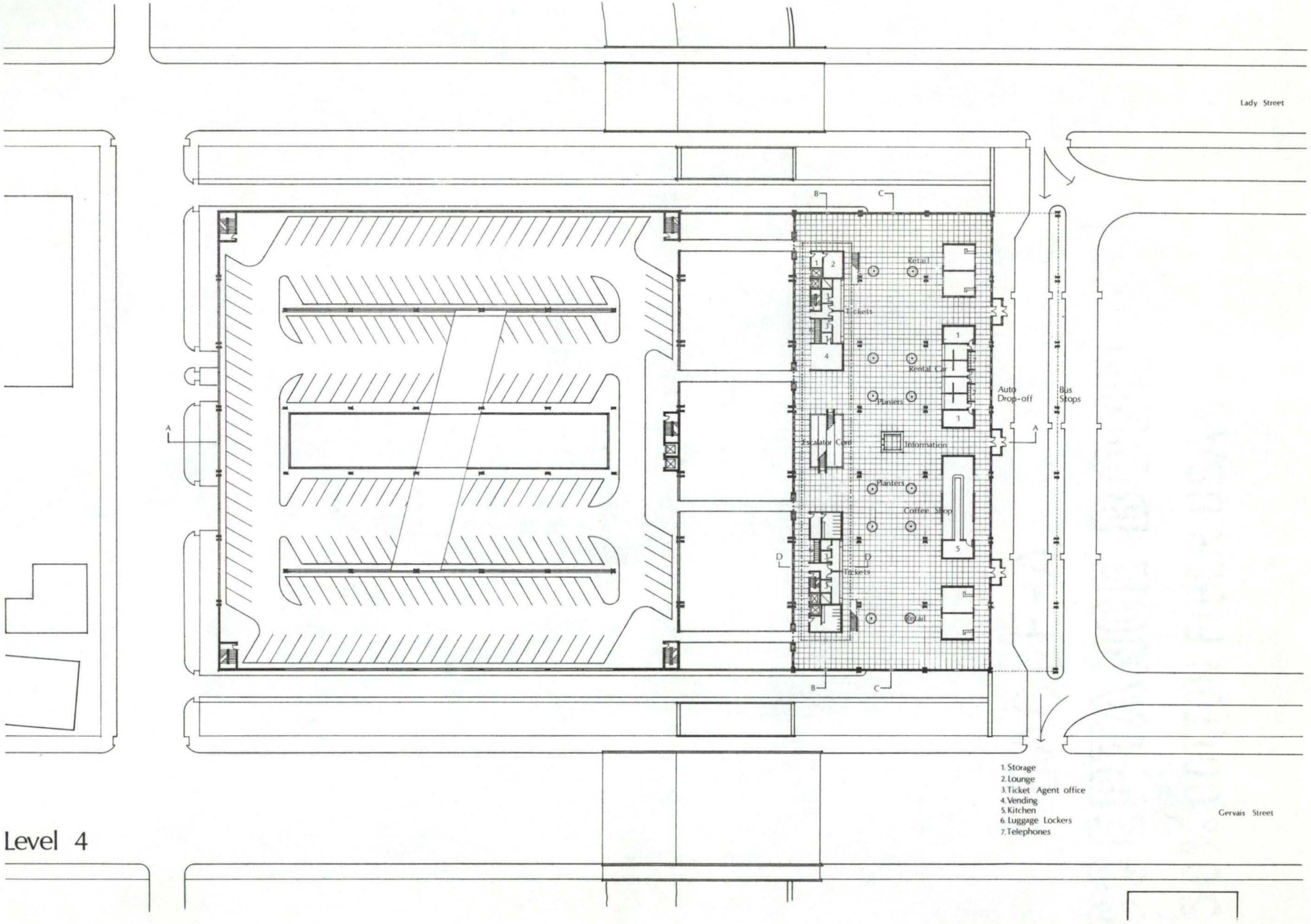


Site


Lady Street
Pulaski Street
Gervais Street
Security
190 spaces per level
950 Total
up
B
C
Trailways
Freight
Waiting
Bus Park
Waiting
D
D
Greyhound
Freight
up
B
C
A
A
1. Mechanic's room
2. Storage
3. Package Agent office
4. Dispatcher
5. Driver Sleeping room

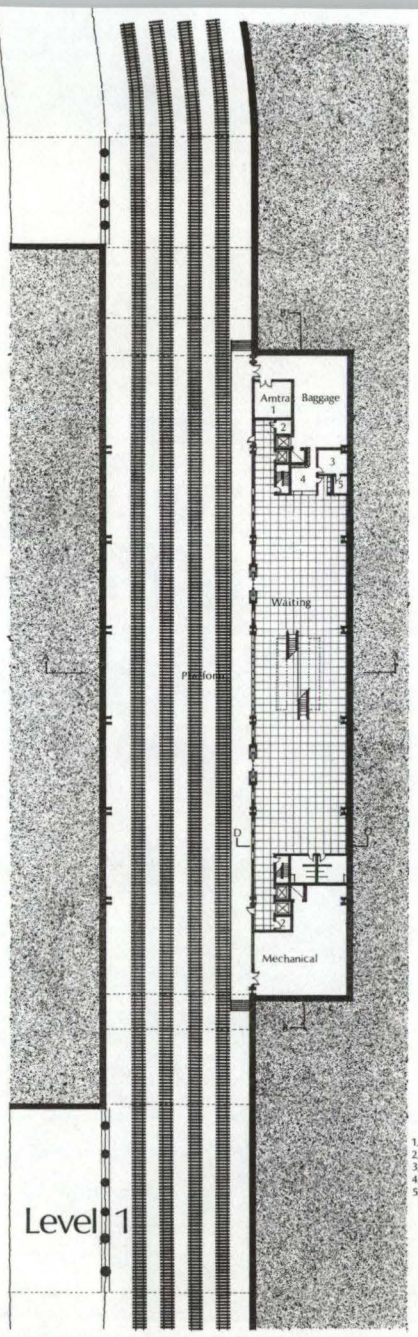
Level 2

Plan


Lady Street
Gervais Street
Retail
Tickets
Rental Car
Planters
Auto
Drop-off
Bus
Stops
Escalator Core
Information
Planters
Coffee Shop
Tickets
Retail
A
B
C
D
1. Storage
2. Lounge
3. Ticket Agent office
4. Vending
5. Kitchen
6. Luggage Lockers
7. Telephones

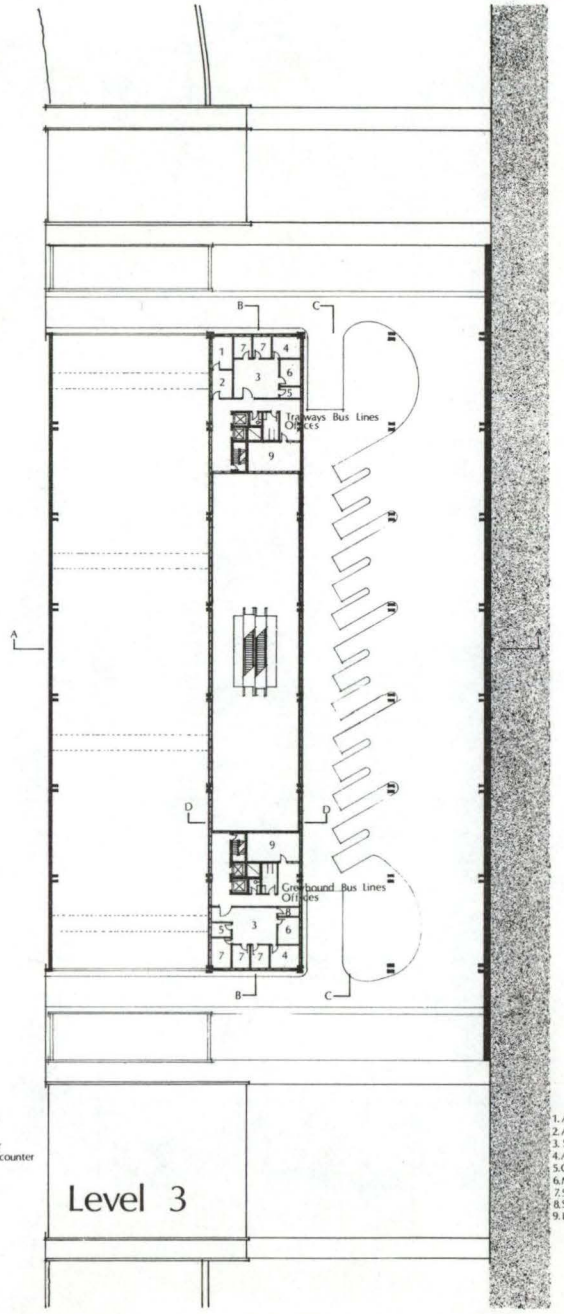
Level 4

Plan



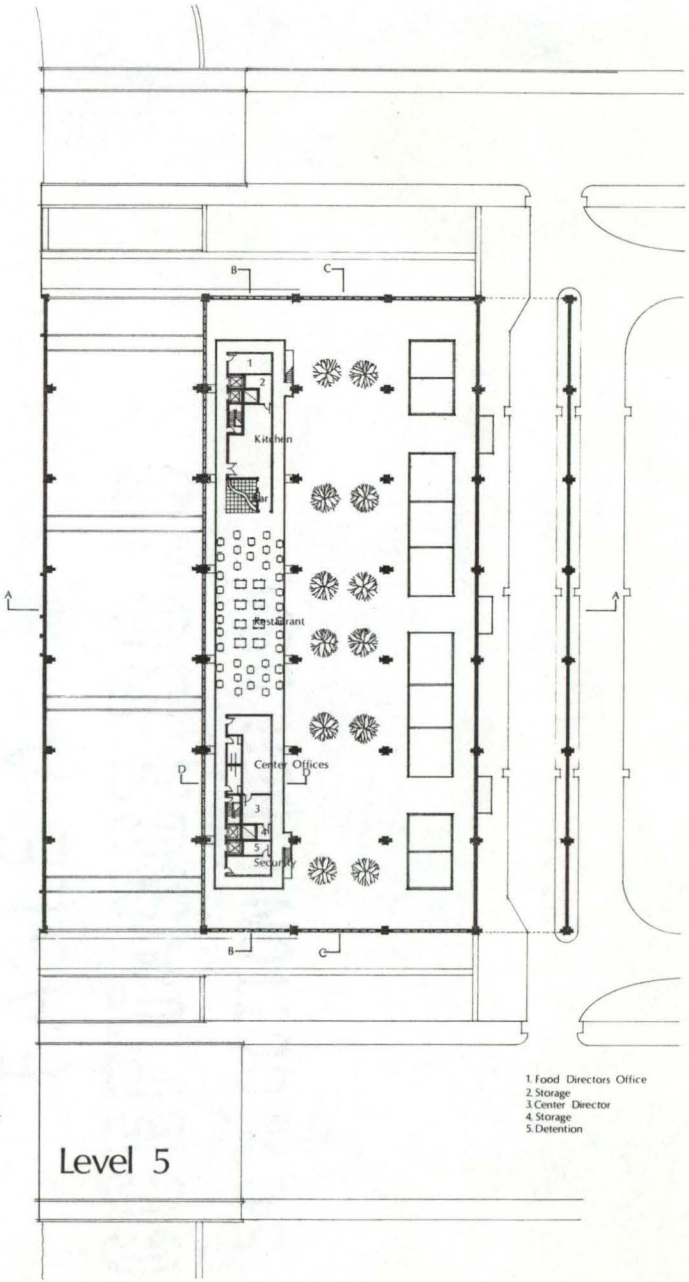
1. Equipment room
2. Machine room
3. Baggage Manager
4. Baggage/Freight counter
5. Storage

Level 1



1. Amtrak Manager
2. Assistant
3. Secretarial
4. Assistant Manager
5. Cash room
6. Manager
7. Sales
8. Storage
9. Lounge

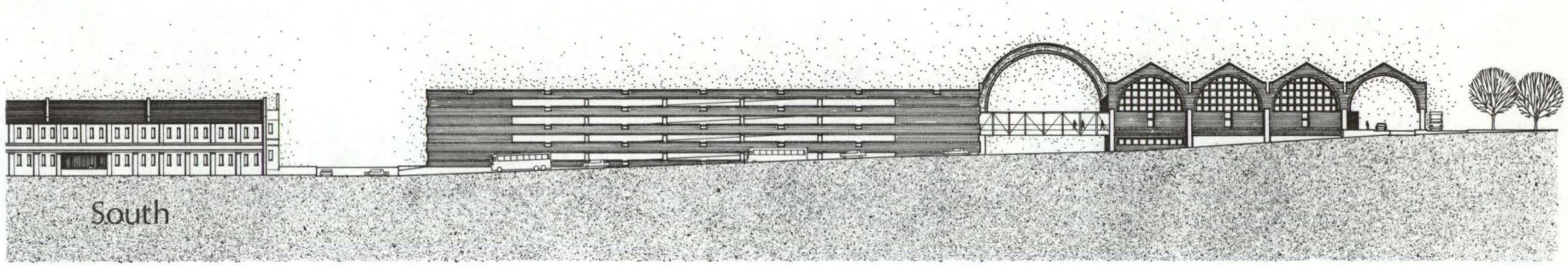
Level 3

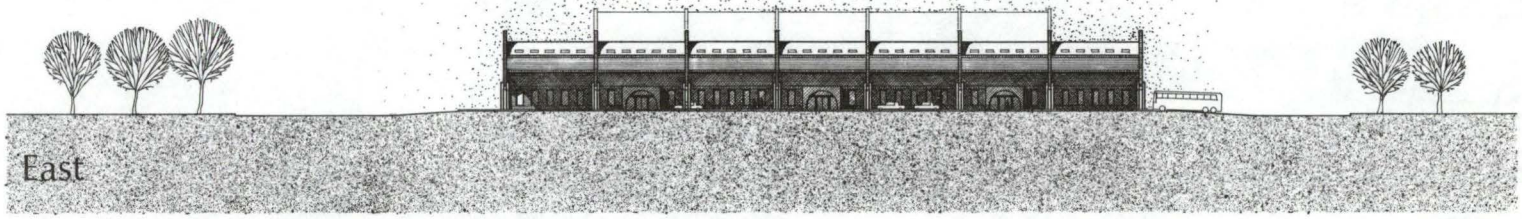


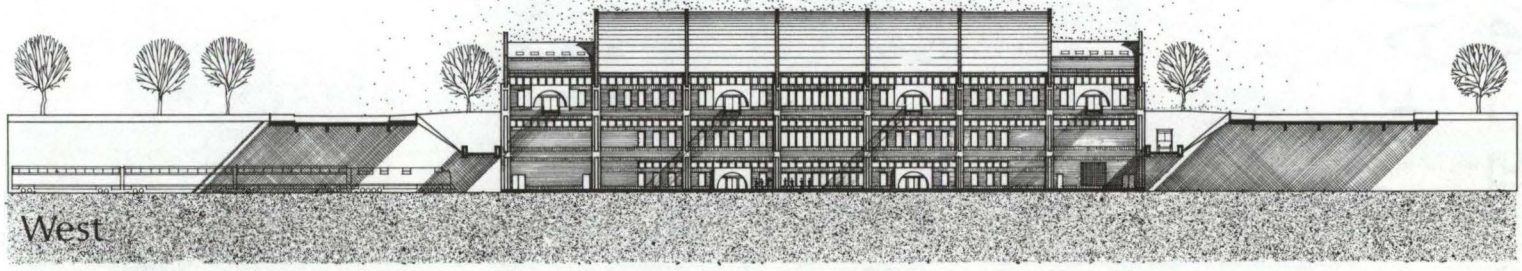
1. Food Directors Office
2. Storage
3. Center Director
4. Storage
5. Detention

Level 5

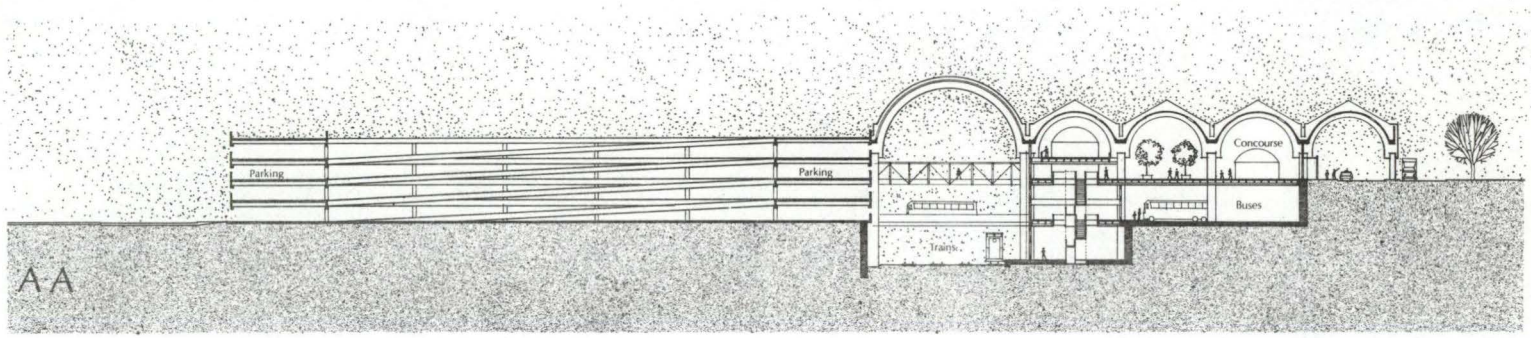
Plans

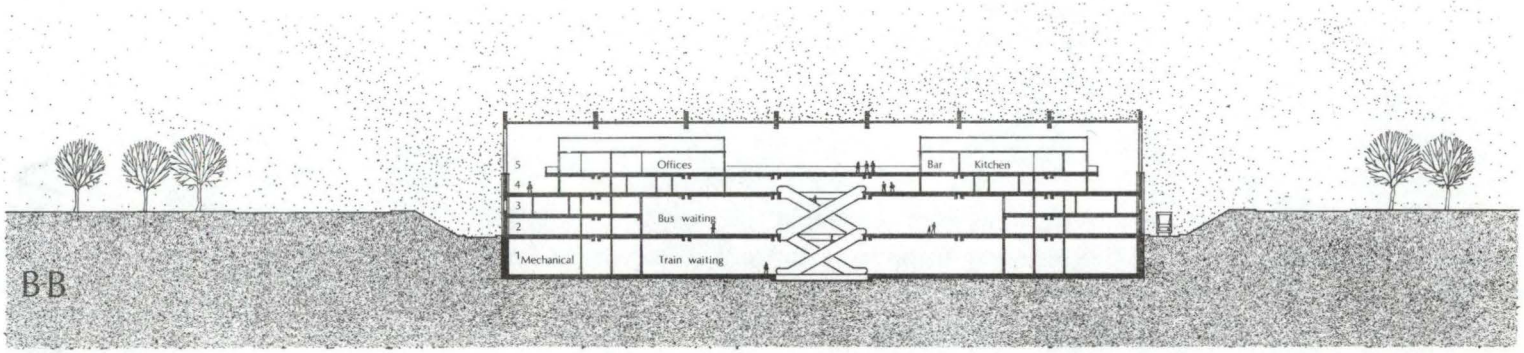


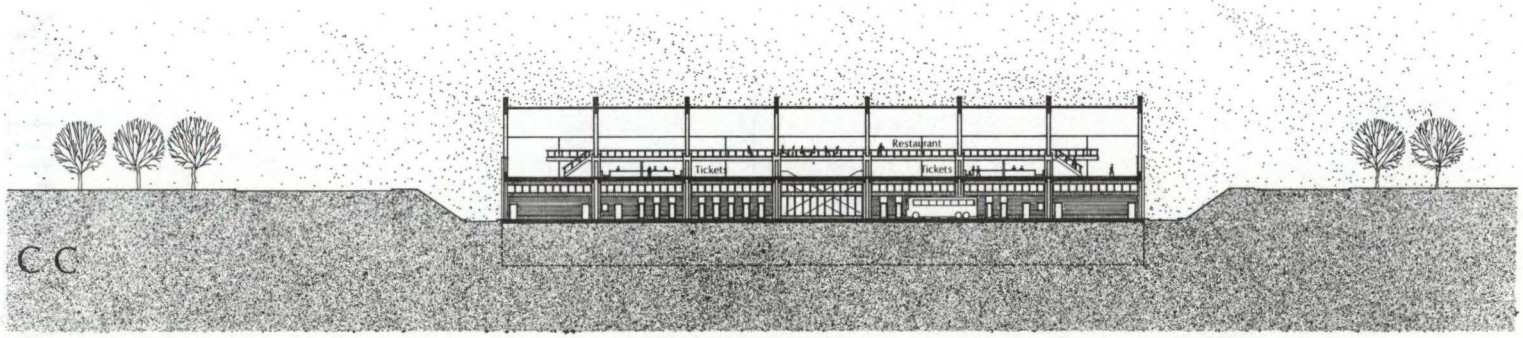




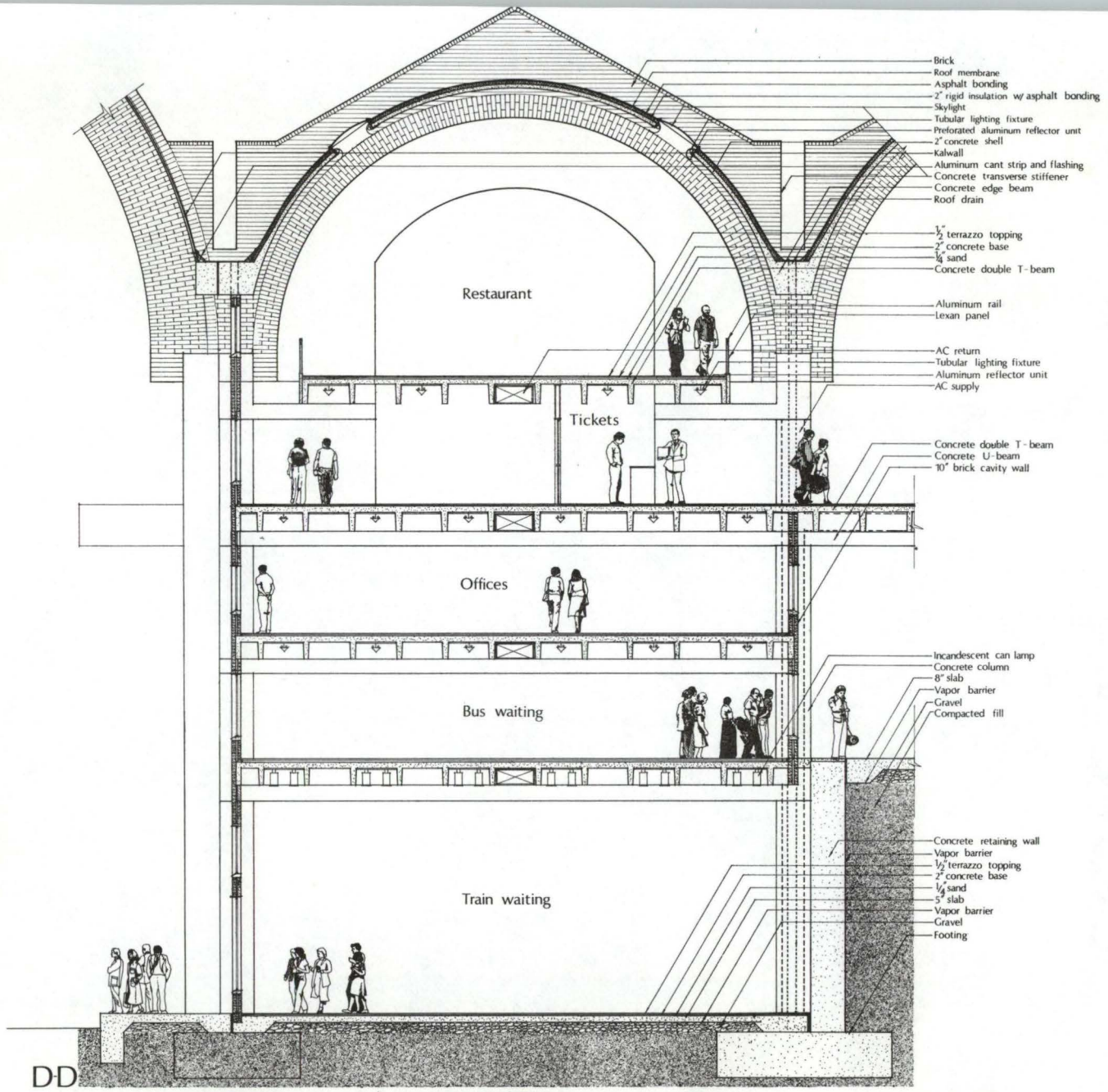
Elevations


A-A
Parking
Parking
Trains
Buses
Concourse


B-B
5
4
3
2
1
Mechanical
Offices
Bar
Kitchen
Bus waiting
Train waiting

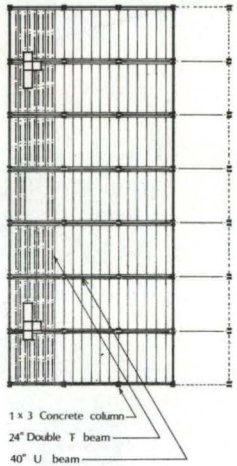

C-C
Restaurant
Ticket
Tickets

Sections

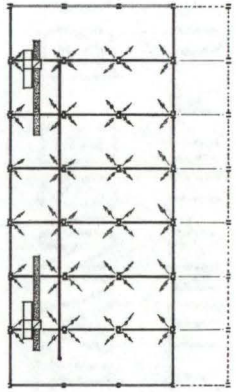


D-D

Structural



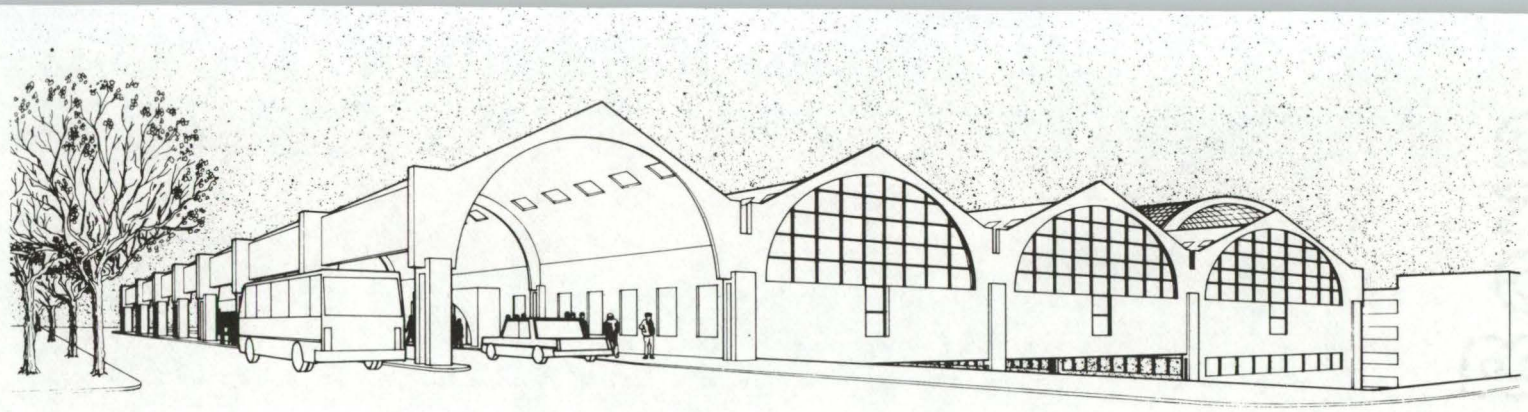
Mechanical



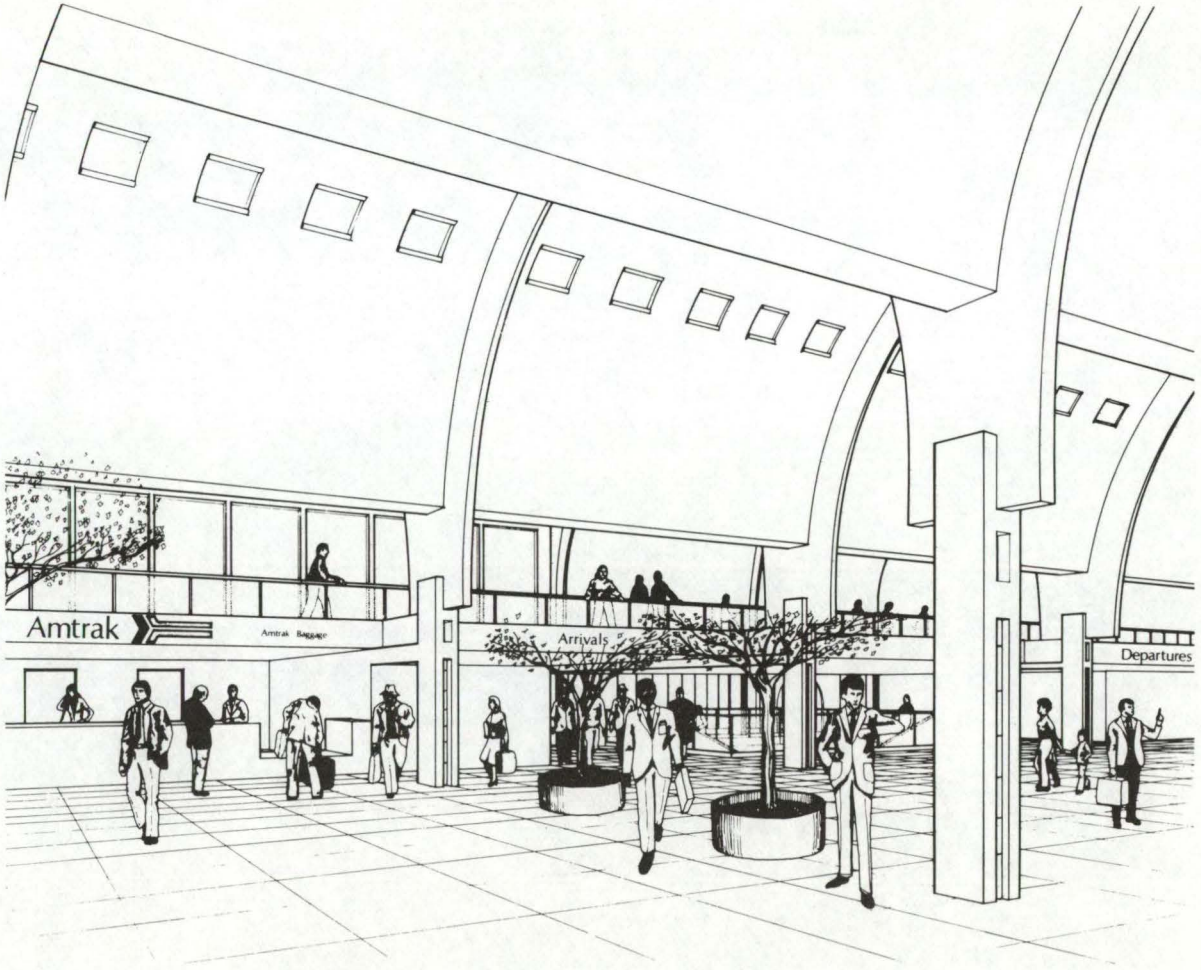
Construction Section

1 4 8

Systems

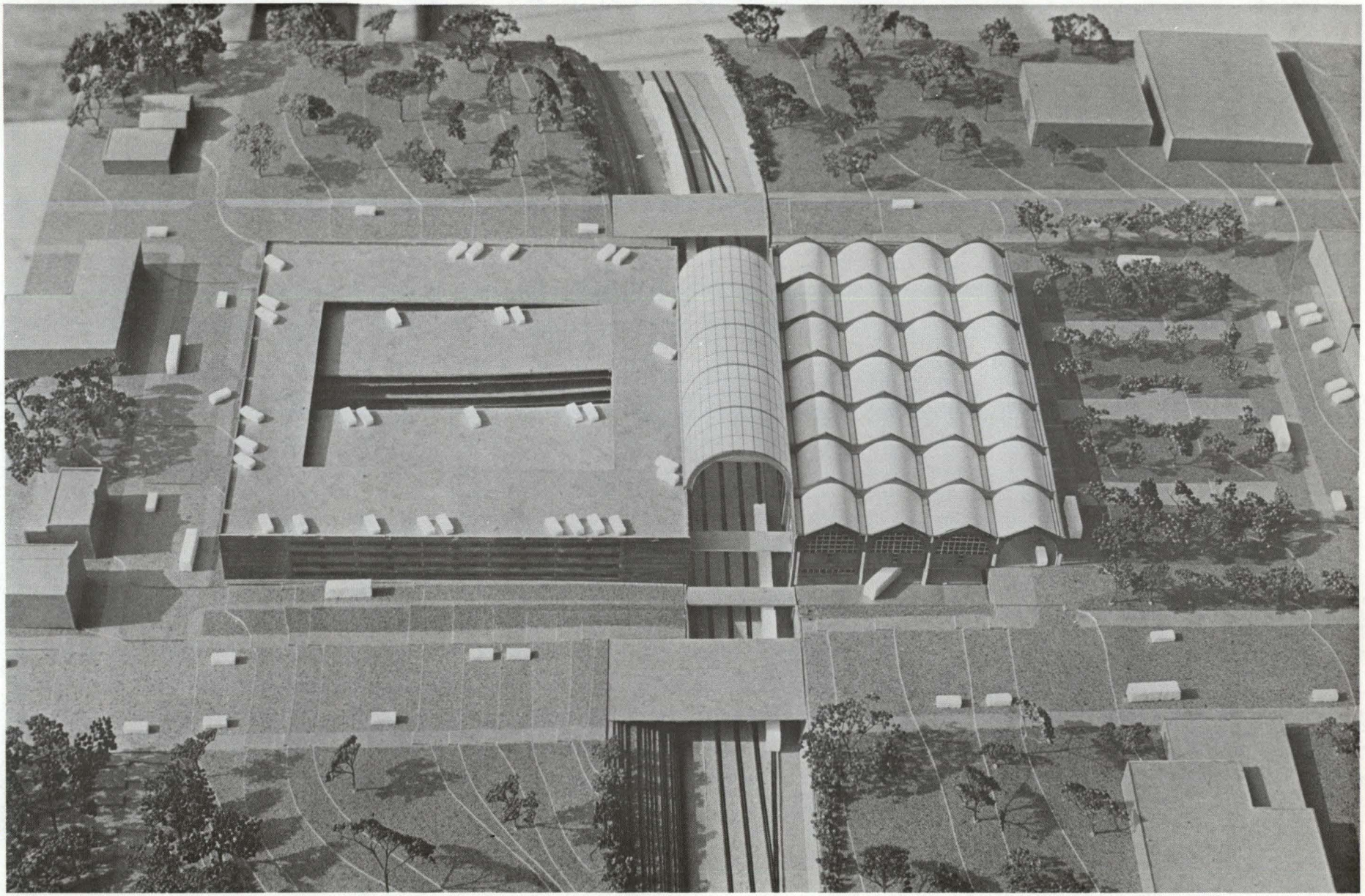


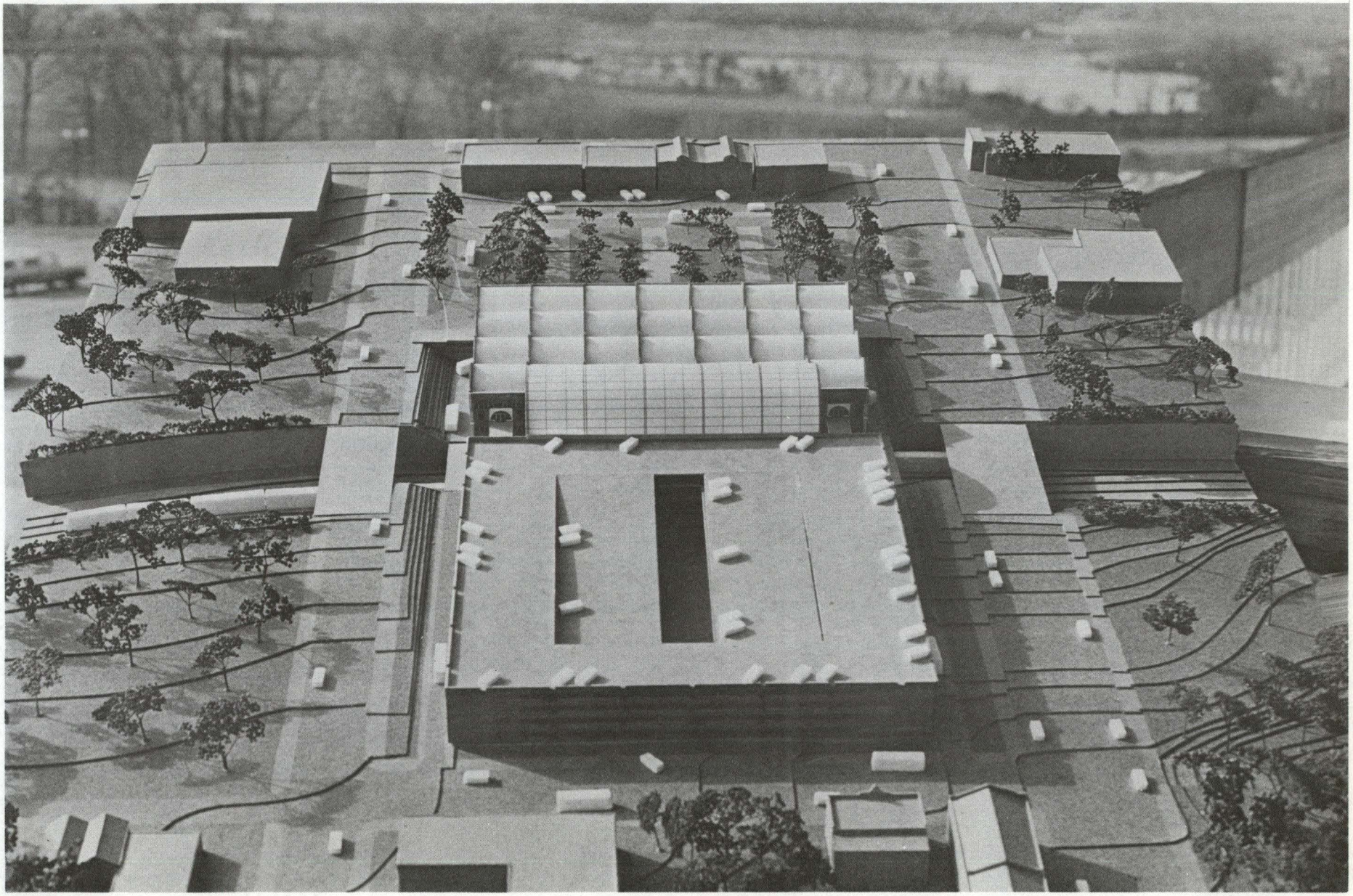
The entry drive as seen from Lady Street

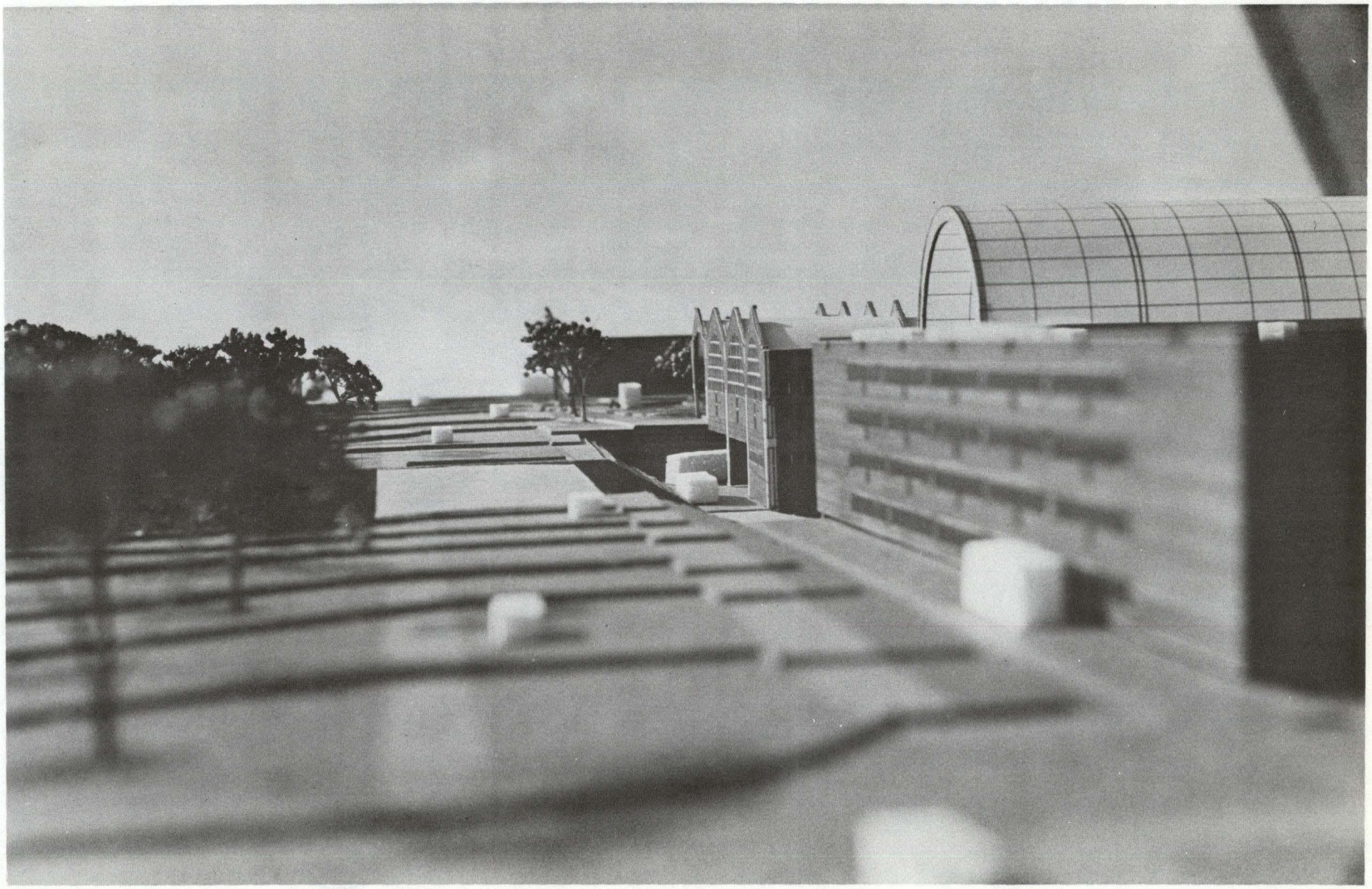


Concourse Interior

Perspectives







FOOTNOTES

[1] 1980 Census of Population, U.S. Department of Commerce, March 1982.

[2] Montgomery, John A. Columbia, South Carolina: History of a City (Woodland Hills, California: Windsor Publication, 1979), p. 96.

[3] Wilbur Smith and Associates and Lyles, Bissett, Carlisle and Wolff. Summary Report: Columbia Area Public Transportation Study, December 1972, p. 12.

[4] Ibid., p. 13.

BIBLIOGRAPHY

Architectural Review. "Preston England's Intermodal, Inter-city City Centre Bus Station," July 1970, pp. 31-34.

Ballinger, Jerry. Charleston Transportation Center.

Bultman, Phelps H. Columbia's Commercial Heritage, Bultman Coulter, Gasque Associates, Architects and Engineers, Columbia, SC, April, 1977.

1980 Census of Population. U.S. Department of Commerce, March 1982.

Central Midlands Regional Planning Council. Columbia Area Public Transportation Study Update, Columbia, SC, June 1981.

Central Midlands Regional Planning Council. The Central City Development Plan: A Progress Report on the First Five Years, Columbia, SC, June 1974.

Central Midlands Regional Planning Council and the South Carolina Department of Highways and Transportation. Columbia Area Transportation Study, Columbia, SC, June 1981.

De Chiara, Joseph and Harold R. Sleeper. Time Saver Standards for Building Types, New York, New York: McGraw Hill, Inc, 1978.

Doxiadis Associates, Inc. with Wilbur Smith and Associates and Lyles, Bissett, Carlisle, and Wolff. Central City Columbia, SC Master Plan DOX-USA-WS44, December 1969.

Frye, George. "Columbia is on Brink of Construction Boom," Southeast Real Estate News, February 1982, pp. 1, 11-14.

Gale Research Company. Climates of the States, Vol. 2, Detroit, Michigan, 1978, pp. 873-891.

Kline, W. D. Columbia South Carolina Illustrated, R. L. Bryan Co., Columbia, SC, 1962.

Meeks, Carroll. The Railroad Station, Secaucus, New York: Castle Books, 1956.

Montgomery, John A. Columbia, South Carolina: History of a City, Woodland Hills, California: Windsor Publications, 1979.

Nairn Janet. "In the Center of Boston: A Revitalized South Station as Transportation Hub," Architectural Record, July 1981, pp. 101-107.

Nairn, Janet. "Mass Transit - A Look at Trend Setting Designs that Keep Us Moving," Architectural Record, July 1979, pp. 115-119.

Nairn, Janet. "New Perceptions of Mobility," Architectural Record, December 1979, pp. 120-133.

Nervi, Pier Luigi. Buildings, Projects, Structures. 1953-1963, New York, New York: Frederick A. Praeger, Inc., 1963.

Office of the Chief Engineer. Amtrak Standard Stations Program Executive Summary, National Railroad Passenger Corporation, Washington, D.C., 1978.

Ralph Whitehead and Associates. Proposed Railroad Relocation, Consolidation, and Grade Crossing Elimination Project for Columbia, South Carolina, Prepared for the U.S. Department of Transportation, Federal Railroad Administration, Preliminary Engineering Report #FRA-OPPD-79-13, Charlotte, N.C., July 1979.

Ramsey, Charles G. and Harold R. Sleeper. Architectural Graphic Standards, New York, New York: John Wiley & Sons, Inc., 1970.

South Carolina Department of Highways and Public Transportation. Daily Traffic Volume Study for Columbia, South Carolina, Fall 1981.

South Carolina Electric & Gas Company, Columbia Division. Bus Routes and Schedules, Revised March 1, 1981.

Wilbur Smith and Associates. Feasibility Study, Assembly and Hampton Street Multi-Use Facility, Columbia, South Carolina, October 1978.

Wilbur Smith and Associates and Lyles, Bissett, Carlisle, and Wolff. Summary Report: Columbia Area Public Transportation Study, December 1972.

Interviews With:

1. The Honorable Kirkman Finlay, Jr.
   Mayor
   City of Columbia

2. Mr. Carlos Salter
   Central Midlands Planning Council

3. Mr. Richard Semon
   Executive Director
   City of Columbia, Department of Economic Development